

Quetico
Provincial Park

Master Plan

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Minister's Approval Statement

There are over one hundred and twenty provincial parks in Ontario, of which a few stand out as particularly significant and well-known. Quetico Provincial Park is one of those that have gained worldwide recognition.

For over sixty years, the park has played a major role in the provision of wilderness canoeing opportunities while, at the same time, satisfying certain resource extraction demands. However, with the increased recreational and resource extraction pressures placed upon the park, the resolution of various conflicts was required. Consequently, the Quetico Provincial Park Advisory Committee was appointed to review the situation and to make recommendations taking into consideration public viewpoints. As a result, one of the most extensive public participation programs associated with park planning culminated in a new direction for Quetico.

I would like to thank the members of the Advisory Committee, under the chairmanship of Mr. Sydney G. Hancock, for their detailed study and worthy contribution to the future planning and management of one of Ontario's most cherished parks. The valuable advice and the expression of interest conveyed to the Committee and Ministry staff in about five thousand submissions are gratefully acknowledged. In addition, meetings held with government representatives of the United States, concerning the Boundary Waters Canoe Area, which adjoins the park, were most helpful during the preparation of the master plan.

This master plan, as the official policy framework for park management, in accordance with The Provincial Parks Act, Sections 1d and 7a, will ensure that Quetico remains a special place in Ontario. The master plan represents the initial stage in developing a comprehensive policy for the park. The formulation of more detailed management guidelines will be undertaken as research, into subjects such as fire ecology and visitor distribution, is completed.

The change in policy direction for Quetico reflects a commitment concerning the value of wilderness areas to mankind. I am confident that this exceptional provincial resource will be protected for the recreational and educational benefit of present and future generations. It is my hope that the silence of Quetico's forests, the quality of its waters and the natural grandeur and solitude experienced there will enrich the lives of all of us in the years ahead.



Hon. Frank S. Miller
Minister



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| Metric Measures | |
|--------------------------|---|
| Unit | Equivalent |
| centimetre (cm) | 0.3937 inches |
| metre (m) | 3.2808 feet |
| kilometre (km) | 0.6214 miles |
| square kilometre (sq km) | 0.3861 square miles; 100 ha |
| hectare (ha) | 2.4710 acres |
| cubic metre (cu m) | 35.3148 cubic feet |
| kilogram (kg) | 2.2046 pounds |
| kilowatt (kw) | 1.3410 horsepower |
| degrees Celsius (°C) | $^{\circ}\text{C} \times \frac{9}{5} + 32 =$ degrees Fahrenheit (°F) |

Location

Quetico
Provincial Park



Introduction

Quetico Provincial Park is Ontario's second largest "primitive park."* Located in northwestern Ontario approximately 160 km west of Thunder Bay and adjacent to the Canada-United States boundary (Figure 1), this vast area of parkland encompasses some 4,655 sq km of rugged Shield country. The park's numerous lakes and streams, its rich history and its wild, undeveloped landscape all contribute to its reputation as an area of unparalleled wilderness canoeing opportunity.

The recreational potential of Quetico was first officially recognized in 1913 with its establishment as a provincial park. Non-recreational uses, however, were not excluded at that time. Trapping, commercial fishing, mining exploration and logging all occurred subsequently within the park's boundaries. By the late sixties, with recreational pressures as well as extraction demands continuing to increase, it became evident that Quetico could not continue to satisfy all demands indefinitely.

The environmental conservation movement of the late sixties and early seventies culminated with respect to Quetico in a controversy over the compatibility of logging within the park. In response, the Minister of the then Department of Lands and Forests appointed the Quetico Provincial Park Advisory Committee to study the problem and make recommendations. The terms of reference for the Advisory Committee were outlined as follows:

1. To advise the Minister on those policy matters that he referred to the Committee.
2. To hold hearings, accept briefs and presentations from groups and individuals, and to interpret these public viewpoints as part of the planning process.
3. To report periodically to the Minister on the progress of the planning in order to keep the public informed.

The Quetico Provincial Park Task Force, composed of Department of Lands and Forests staff, was appointed to provide the Advisory Committee with requisite technical information.

To solicit public opinion and advice, the Advisory Committee placed advertisements in the press throughout Ontario. Interest in the park proved to be widespread. The Committee received 263 written briefs and some 4,500 letters and heard 144 oral presentations delivered at public hearings held in Atikokan, Fort Frances, Thunder Bay and Toronto. Not only were responses received from all parts of Ontario but also from across Canada and the United States. In carrying out its duties, the Committee met a total of twenty-five times at different locations within the park, in the vicinity of the park at Lac la Croix, Quetico Centre, Atikokan and Fort Frances, and in Thunder Bay and Toronto.

Supported by both public and technical input, the Advisory Committee reviewed the primary issue of logging within Quetico, as well as a variety of other problems of less immediate public concern but nonetheless in need of resolution. On May 13, 1971, the logging issue was resolved. Acting in response to the Advisory Committee's first recommendations, the Premier of Ontario, in a statement to the Ontario Legislature, announced the immediate discontinuation of logging. In May 1972, the Advisory Committee reported its findings in full and made a series of recommendations to the Minister of Natural Resources. Additional time was then allowed until December 1972, for the public to review the Committee's recommendations and to return comments to the Minister. Upon receipt of these comments, a further and final review was undertaken internally within the Ministry of Natural Resources.

On June 21, 1973, the Minister announced to the Ontario Legislature the acceptance of the Quetico Provincial Park Advisory Committee's recommendations. Subsequently, the Ministry of Natural Resources embarked on a master planning program. The ensuing planning process was somewhat unusual in that it was guided by rather specific and recently approved government policy which effectively dictated many master planning decisions. The master planning task was therefore intended to provide more detailed policy guidelines which, in complementing the policy statement, will serve as a frame work for more detailed levels of management planning, park operation and administration.

*This designation is proposed to be changed to "wilderness park," which is the term employed in this document.



Biophysical Resources

Geology

Quetico Provincial Park lies within the southern portion of a vast area of ancient rock known as the Precambrian Shield or the Canadian Shield. The Shield forms the foundations of the North American continent and consists of some of the oldest rocks on earth. It is divided into a number of structural provinces and sub-provinces on the basis of overall differences in internal structural trends and style of folding (Stockwell et al, 1970). Quetico Provincial Park is situated in the largest of these, the Superior Structural Province, and encompasses portions of two sub-provinces, the Wawa Greenstone Belt and the Quetico Gneissic Belt. All the rocks within the park boundaries are of Archean age, having last been affected by a major period of mountain-building during the Kenoran Orogeny about 2,500 million years ago.

The oldest rocks are found in the southeastern sector of the park. They consist predominantly of metamorphosed volcanic sequences belonging to the northwestern portion of the Wawa Greenstone Belt, which extends from Minnesota, along the north shore of Lake Superior to western Quebec. Erosion and major faulting along the northern edge of this belt, including the Knife Lake Fault, has fragmented the volcanic sequences such that three northeast-trending zones are exposed in the park. The metavolcanic rocks in the northern and central zones are separated into distinct sequences of metamorphosed volcanic rocks which are felsic to intermediate and mafic to intermediate in composition. These sequences are the result of changing magma compositions during successive periods of eruptions in the volcanic areas. The southern, largest zone consists predominantly of mafic metavolcanics. Outcrops are precipitous, and lakes are long and narrow, a reflection of the preferred orientation or schistosity imparted by the constituent minerals to the metavolcanic rocks (Parsons, 1916) and the complex fault system which crosscuts the bedrock (Figure 2).










The metavolcanic rocks are believed to predate all other rocks in the region. They form the source rocks for the detrital sediments of the sedimentary belts to the north of the Wawa Greenstone Belt. These rocks were probably formed over 2,700 million years ago, the age of the oldest intrusive granitic rocks found in the park. They were formerly classified as Keewatin in age.

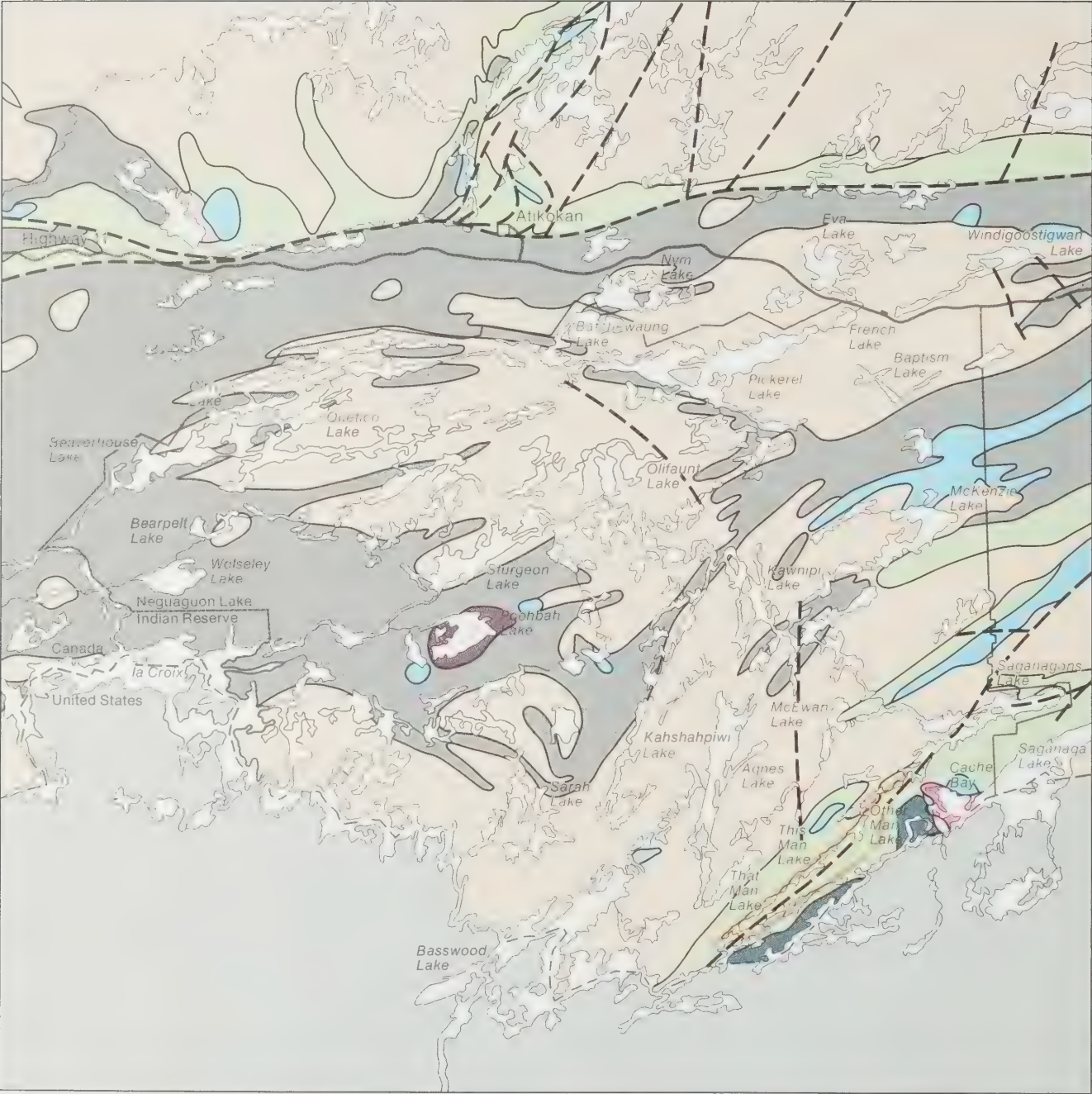
Associated with the metavolcanic rocks are long, northeast-trending, continuous units of iron formation. These units are banded and consist of hematite and/or magnetite interbanded with chert and jasper. The iron formations accumulated in shallow basins during periods of relative quiescence in the volcanic activity (Sims, 1972). Within Quetico, these units show outcrops at the following lakes: Emerald, Cypress, This Man, That Man and Carp.

The park is underlain predominantly by altered sedimentary rocks of the Quetico Gneissic Belt. Greywacke, siltstone and slate, commonly metamorphosed to biotite-quartz-feldspar schists and gneisses, are the major rock types. The metasediments extend from Fort Frances, through the park, to a point 80 km east of Geraldton. This belt of sedimentary rocks is 530 km long, and ranges from 10 to 50 km wide, with an average width of about 24 km (Harris, 1970). The greywackes, characterized by an abundance of tiny mineral grains and rock fragments resulting from a rapid deposition of detritus, were derived from the higher volcanic terrain of the Wawa Greenstone Belt and were deposited in a shallow, subsiding basin adjacent to the volcanic belts (Stockwell et al, 1970).

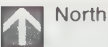
These gneissic rocks are exposed in the park as low, rounded hummocks along the shorelines of the numerous lakes. The sediments from which the gneisses are derived were formerly classified as Coutchiching, believed by some authors to be the oldest rocks in the Precambrian Shield. The controversy of the age relationship between the Coutchiching gneisses and Keewatin metavolcanics has not been resolved to date.

Bedrock Geology

- | | | | | | |
|---|--------------------------------|---|----------------------|---|----------------|
|  | Felsic intrusive rock |  | Poohbah Lake Complex |  | Iron formation |
|  | Mafic intrusive rock |  | Saganaga Granite |  | Metavolcanics |
|  | Knife Lake Group metasediments |  | Metasediments |  | Major faults |



0 10 20 km



Adapted from: Map 2199,
Ontario Geological Map,
West Central Sheet, and Map 2065,
Atikokan-Lakehead Sheet



Associated with, but post-dating, the metavolcanic sequences of the Wawa Greenstone Belt are the altered sedimentary sequences of the Knife Lake Group. These have been assigned to Timiskaming time. Greywackes, slates and conglomerates are interlayered with volcanic agglomerates, basalt and andesite flows, indicating an origin closely associated with the volcanic activity which prevailed in those times. The basal conglomerate of the Knife Lake group exhibits large clasts of granitic rock belonging to an intrusive plug known as the Saganaga Granite (Harris, 1968), both of which outcrop in Cache Bay on Saganaga Lake. The age of the Saganaga Granite as indicated by this relationship is significant; it is one of the few granitic complexes in the Shield which is older than the surrounding bedrock, having been dated at about 2,700 million years (Hansen et al, 1971). It was formerly classified as Laurentian (Figure 3).

Another sedimentary-volcanic sequence to affect the park area is the Poohbah Lake Complex, located around Poohbah Lake (Figure 2). It is an alkaline intrusive comprising several rock types and is significant in that it is one of the oldest known alkaline intrusives in the Shield, with an age of 2,706 million years (Mitchell, 1976). It is the type locality of the rock malignite, a potassium syenite.

Other intrusive rock types include granite, syenite, pegmatite and migmatite. These are related to a major mountain-building period, the Kenoran Orogeny, which affected all rock types in the park. The pegmatite is significant because it contains well-developed crystals of spodumene, the ore mineral of lithium, and beryl in exposures west of Poohbah Lake along the Maligne River. The granitic terrains form moderate to low rolling topography. Where faults crosscut this bedrock, however, precipitous slopes may be formed, as in the Man chain lakes.

Figure 3

Sequence of Geological Events

| Years before present | Event | Classification |
|--------------------------------|---|--|
| 7,500 to the present | Swamp, lake deposits | Recent |
| 1 million to 7,500 | Glacial activity; deposition and erosion; late Wisconsin glaciation last to affect area | Quaternary |
| Erosional interval | | Precambrian |
| 2,600 million to 2,300 million | Mountain building activity lasting up to 200 million years and intrusions of mafic and felsic rocks | Kenoran Orogeny |
| Intrusive contact | Deposition of Knife Lake sediments | |
| Erosional contact | | |
| 2,700 million | Intrusion of Poohbah Lake Complex, Saganaga Granite and numerous smaller igneous bodies | "Laurentian" age |
| Intrusive contact | Deposition of sediments in shallow basins (geosynclines) adjacent to volcanic arcs | "Coutchiching" sediments; now Kashabowie Group |
| Fault and conformable contact | Deposition of volcanic sequences along volcanic arc in a sea | "Keewatin" volcanics |



Surficial Geology

The shape of the land surface in the park area is the product of 2,500 million years of erosion since the last tectonic activity uplifted the terrain in a great mountain-building episode. The low, rolling topography had already been established when the first glaciers of the Quaternary period flowed south and southwest across the Quetico region, stripping away any existing soils and flora and gouging and scratching the underlying bedrock. Lake basins were deepened as badly-weathered bedrock surfaces and fractured joint and fault zone debris were removed by successive glacial advances during the last one million years. The soils, glacial features and drainage patterns which exist today in Quetico Provincial Park are the result in part of the last of the great glacial period of the Quaternary, known as the Wisconsin (Figure 3). In the Quetico area, the Wisconsin was witness to three major advances of the continental ice masses across northwestern Ontario, though only the features associated with the last of these are preserved. Included in Quetico Provincial Park are two sets of glacial striae, two end moraines or terminal moraines associated with ice-halt positions during the retreat of the final ice sheet, raised shoreline features and lacustrine deposits of proglacial Lake Agassiz, and outwash deposits of a spillway into proglacial Lake Agassiz (Figure 4). Most of the park is underlain by a thin mantle of sandy ground moraine.

Glacial striae are shallow grooves or scratches gouged into the bedrock surface by rock fragments embedded in the base of the overriding glacier. The striae indicate the erosive power of the glacier as well as its direction of movement. In Quetico Provincial Park, many outcrop surfaces, especially along the shores of Sturgeon, Knife, Cypress, Saganagons and Cairn lakes, display two sets of glacial striae, indicating that at least two glacial movements affected the park area (Dreimanis, 1953). The older set indicates a glacial movement from the northeast, while the younger set indicates a southerly movement of the ice (Dreimanis, 1953). On bedrock outcropping at Kasakokwog Lake and Cirrus Lake, moon-shaped crescent marks associated with the striae also indicate the passing of the ice.



Most of the park area was freed of ice for the last time between 10,500 and 11,000 years ago. As the glaciers melted, the debris embedded throughout the ice was deposited on the surface as ground moraine. This glacial debris, or till, also makes up the Steep Rock Moraine, a ridge marking a temporary halt in the retreat of the ice in the northeastern corner of the park. A small portion of another moraine, the extensive Eagle-Finlayson Moraine, is also exposed in the extreme northeastern corner of the park. To the north and west of the park, these two moraines may have been contemporaneous (Campling, 1974); but within the park, the moraines represent two distinct ice-halt positions (Zoltai, 1965).

As the Patrician glaciers retreated across the park area, the waters of proglacial lake Agassiz inundated the low-lying areas, spreading eastward from its main basin in the Red River Valley. By 10,400 B.P. (before present), a major phase of glacial Lake Agassiz, the upper Campbell level, had flooded most of the low-lying areas and wave-washed high bedrock knolls. The Steep Rock Moraine formed the northern shore of the lake, resulting in the formation of a broad beach along its length (Fox, 1975; Campling, 1974). This beach is well-exposed at Pickerel Lake.

The upper Campbell level of proglacial lake Agassiz was abandoned for the lower Burnside level by 10,200 B.P. because the retreating ice had opened eastern outlets, thereby draining the lake. A re-advance of the Patrician glaciers about 10,000 years ago closed eastern outlets of the lake, thus raising the water level to the upper Campbell phase once again. Vegetational patterns were established in the relatively warm, dry climate of the periglacial environment by this time (Fox, 1975). Subsequent ice retreat lowered the level of Lake Agassiz in stages, attaining the Burnside level once again by 9,000 B.P. The lake may have drained eastward into the Superior basin during this period (Campling, 1974). About 8,600 B.P., a re-advance of the Patrician ice once again closed the eastern outlets of the lake, causing it to rise to a lower Campbell level (Campling, 1974). Subsequent ice retreat lowered Lake Agassiz in stages, until drainage of the Quetico area was complete about 7,800 B.P. Quetico assumed its present appearance and its random drainage at this time.

Thick deposits of sand and clay occur in the Wawiag River basin. These may be a pre-Lake Agassiz spillway deposits or a Lake Agassiz embayment deposit. These soils, which are unique to Quetico Provincial Park and unusual in the Precambrian Shield, support a wide range of plant life.

Surficial Geology

- 1

Ground moraine
(Silty to sandy till)
- 2

End moraine, interlobate
moraine; sand, gravel, boulders
- 2A

Unmodified by
overriding or by lake action
- 2B

Modified by lake
action
- 3

Esker, esker complex,
kame; sand, gravel, boulders
- 3A

Unmodified by
overriding or by lake action
- 3B

Modified by lake action;
esker and delta complex
- 4

Lacustrine deposits; varved
clay, silt, fine sand, sand
- 4A

Varved clay and silt
- 4B

Fine sand
- 4C

Sand
- 4D

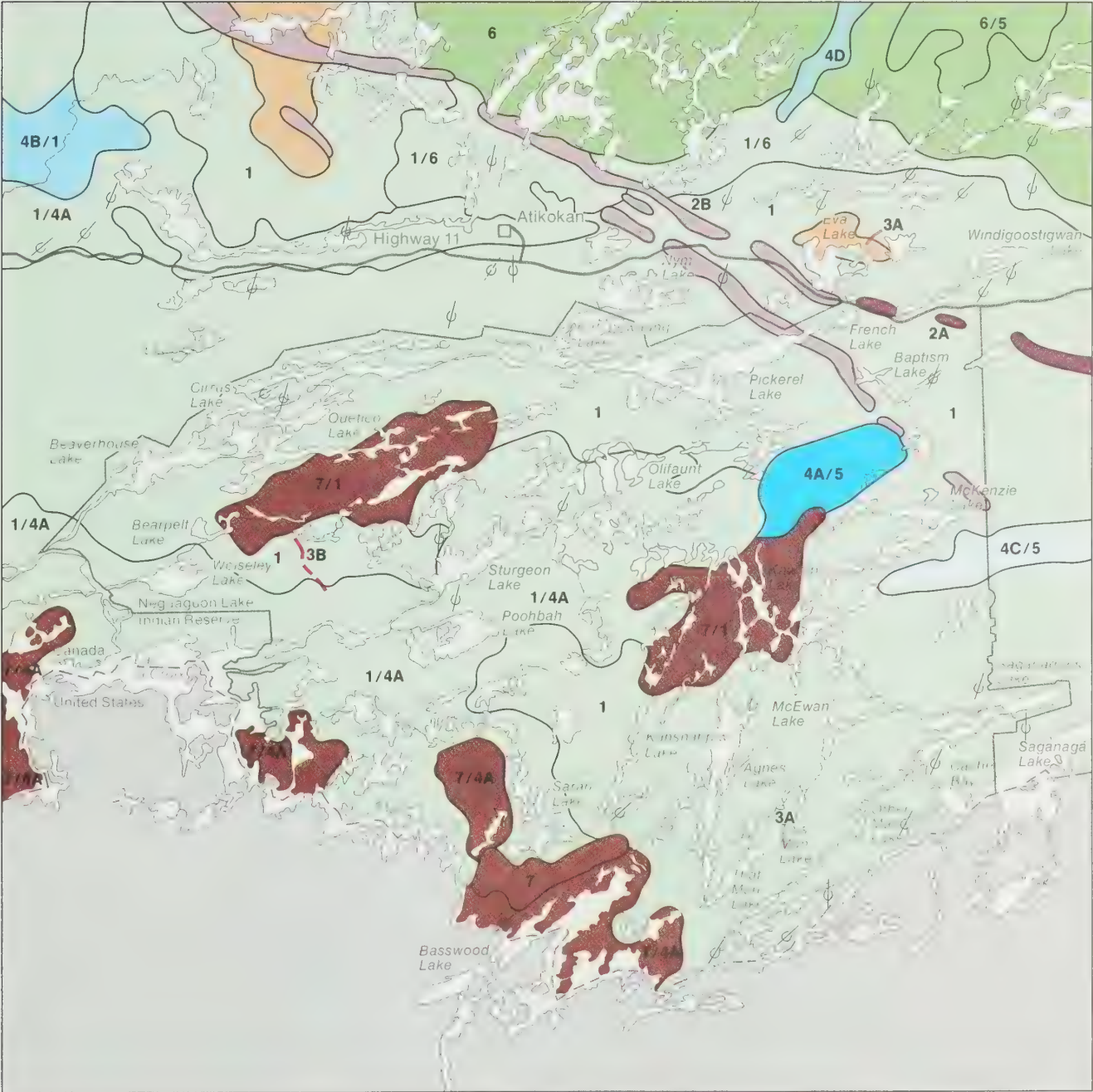
Deltaic sand, valley train
- 5

Outwash deposits:
sand, fine sand, gravel
- 6

Aeolian deposits:
fine sand, silt, loess
- 7

Bare bedrock, eroded
by lake action
- 1/6

Combination of two
features; first is dominant
- Glacial striae
- Older glacial striae

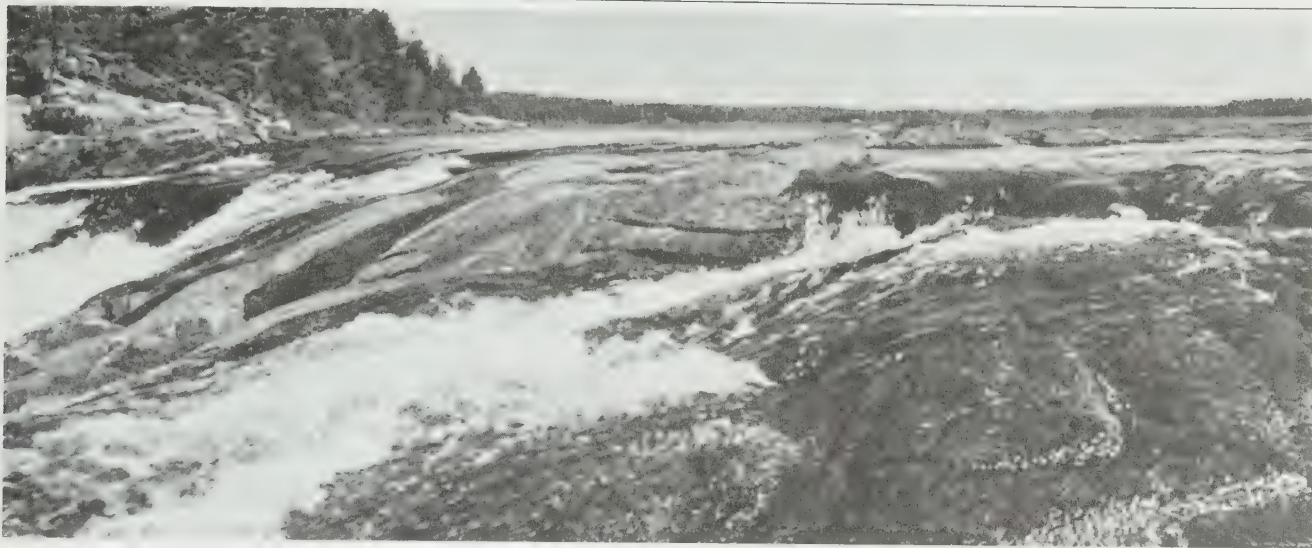


0 | 10 | 20 km

North

Adapted from:
Lands and Forests Map S165
Kenora-Rainy River





In summary, Quetico Provincial Park exhibits geomorphological features closely related to the retreat of the last Patrician glaciers. A hummocky topography consists of bare bedrock, bedrock mantled with thin till deposits as well as pockets of lake clays and other lacustrine deposits. Two ridges of sand and gravel, up to 50 m high, trend northwest-southeast across the northeastern park area, the result of debris accumulating at the edge of the stabilized glacier front. An upper Campbell level of proglacial Lake Agassiz is represented by a distinct strandline along the Steep Rock Moraine.

Drainage

Ancient drainage channels were completely destroyed by the drastic changes in surface topography brought about by the action of the great ice sheets. Thus, as the glacial ice sheet receded, excess water tended to spill over the lowest points on the shorelines of newly-formed lakes. The result is the haphazard drainage pattern which now characterizes Quetico, with waters flowing in all directions of the compass. Ultimately, however, all Quetico waters drain to the west, through Rainy Lake to Lake of the Woods, Lake Winnipeg and finally Hudson Bay.

It is important to note that several of Quetico's watersheds do not lie completely within its boundaries. As a result, activities and developments occurring outside the park but within these watersheds can have a direct impact on Quetico's water quality.

Soils

By far the most widespread soil substrate in Quetico is a ground moraine composed of sand mixed with gravel, stones and boulders. Resting on bedrock, it forms a discontinuous layer usually less than one metre deep. This material, moved only a short distance by glaciation, can be divided into two broad categories depending on the type of bedrock from which it was derived. Ground moraine derived from granite is now situated either over granite or a short distance southwest of the granite source. This very low base (i.e. quite acidic) material is extremely low in nutrients; consequently, the quality and the diversity of the plants and animals it supports are low. Ground moraine derived from metasedimentary and greenstone bedrock, and now found either on this type of rock or a short distance to the southwest, is of a low base type (i.e., moderately acidic). Available nutrients are relatively abundant and in a form more readily usable by vegetation. Consequently, plants and animals are found here in greater numbers and variety.

Stretching across the east end of Pickerel Lake at the "Pines" campsite, the Steep Rock Moraine extends southeastward into the park, past Baptism Lake, Cache Lake and Lindsay Lake. This terminal moraine, deposited at an ice-halt position as the last ice sheet receded, is comprised of sands, gravels, stones and boulders. In places, the Steep Rock Moraine rises to heights of 50 m.

While glacial Lake Agassiz occupied low-lying areas exposed by the retreating ice sheet, glaciolacustrine sediments were deposited, forming varved clays. These clays, now occurring in isolated pockets ranging in thickness from 0.5 to 10.0 m, are found in valleys and on low rock knolls. Being very rich, these deposits support unusual southern species of plants which are unable to survive in the more sterile, acidic soils characteristic of Quetico. Consequently, although not significant in terms of the scale of their occurrence, these soils are of high interest to the botanist.

A deep soil formation found along the Wawiyag River is also of particular interest. Here, deep glacio-fluvial outwash deposits of sands and gravels were deposited as proglacial Lake Agassiz occupied the area. Subsequent to the disappearance of Lake Agassiz, silts and clays, carried from upstream areas in times of flooding, have been periodically deposited on the original formation. The result is a very deep soil formation, unusual in the Precambrian Shield and unique in Quetico. Numerous plants, uncommon in the Shield, have been able to gain a foothold on this fertile alluvium.

Organic soils, comprised of partially decomposed plant remains, occur in poorly-drained depressions surrounded by bedrock. Prevented from disintegrating completely by their cool, wet acidic environment, these remains have collected on top of older deposits creating a deep, spongy peat.

In much of the southern section of the park, extensive stretches of predominantly bare bedrock are present. Here, overburden was removed by wave action of proglacial Lake Agassiz.



As for soil profiles, weak podsols found on well-drained sandy sites particularly under pine are most common. A brown, boreal podsol profile is normally found in less acidic sites associated with such species as aspen, white birch, white spruce and balsam fir. Grey, wooded soils are much less common, being found in rich, well-drained substrates containing clay or silt. Glei and peat occur in the innumerable acidic, poorly-drained sites. Muck is found only locally in wet areas, where water movement and the presence of basic nutrients aid the decomposition of organic matter.

Climate

Quetico's climate is perhaps best understood by reviewing certain important climatic variables in a provincial context. Because temperature isotherms trend from the northwest to the southeast, the July mean daily temperature of Quetico (Figure 5) is equal to that of Gravenhurst in Southern Ontario. Also, with the mean total annual precipitation within Ontario increasing from west to east, Quetico's mean is 69 cm whereas the corresponding mean for Toronto is 86 cm. Finally, most of Ontario is influenced by the continental polar air mass, while Quetico, being near the western border of the province, is also affected by the continental dry air mass

from the foothills of the Rockies. This air mass further decreases humidity while increasing evaporation and transpiration. All of the foregoing factors combine to create a warmer, drier climate than is found throughout most of the remainder of Ontario. The resulting influence on local flora and fauna, in particular, is profound.

Based on an eighteen-year study conducted on the southern boundary of Quetico, Table 1 reveals the annual average temperatures of Quetico to be a mean daily maximum of 7.5°C, a mean daily minimum of -2.8°C and a mean daily average of 2.4°C. The maximum growing season is 159 days, the minimum 103 days and the average 131 days. The average growing season spans the period from May 19 to September 27. The average annual precipitation is 70 cm. Almost 30 percent of the annual rainfall comes during the summer months in July and August. February has the least precipitation of any month of the year.

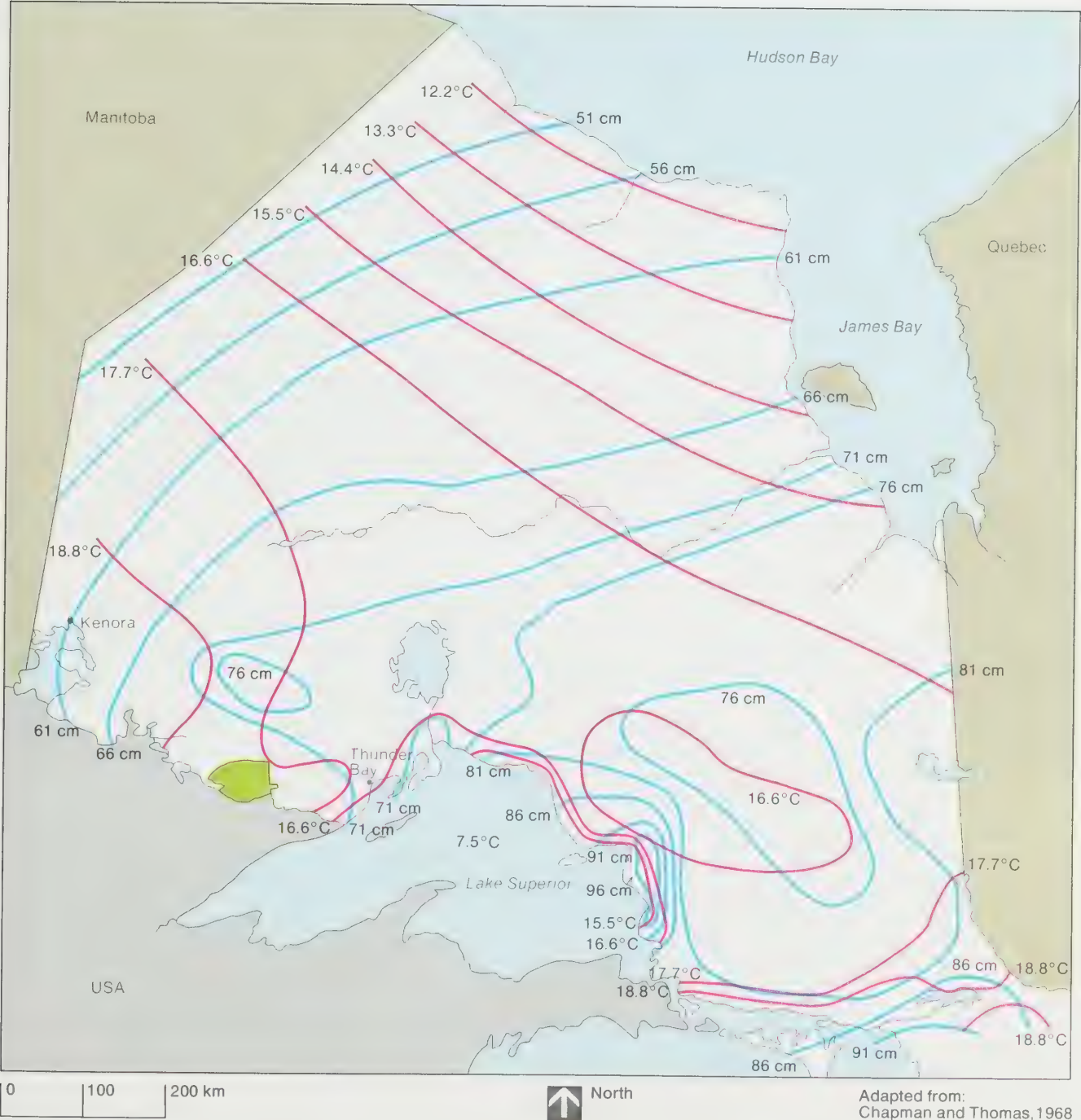
Table 1

Climatic Data

| | Mean daily temperature (°C) | | | Precipitation (cm) |
|-----------|-----------------------------|---------|---------|--------------------|
| | Maximum | Minimum | Average | |
| January | -11.4 | -22.4 | -16.7 | 2.81 |
| February | - 7.4 | -20.0 | -13.7 | 1.95 |
| March | - 0.4 | -13.3 | - 7.3 | 2.90 |
| April | 7.5 | - 2.8 | 2.2 | 4.72 |
| May | 15.6 | 3.9 | 9.4 | 7.06 |
| June | 22.1 | 10.6 | 16.5 | 9.80 |
| July | 24.6 | 13.3 | 19.0 | 10.44 |
| August | 22.7 | 11.9 | 17.5 | 9.93 |
| September | 16.4 | 7.0 | 11.7 | 7.87 |
| October | 10.0 | 1.7 | 5.7 | 4.75 |
| November | - 0.6 | - 6.8 | 3.7 | 4.92 |
| December | - 7.9 | -16.1 | -12.1 | 2.64 |

Climate: Temperature and Precipitation

- July mean daily temperature
- Mean annual total precipitation





Flora

Quetico occupies a zone of transition between the boreal forests to the north, the mixed forests to the south and southeast, and the Great Plains forests to the west and southwest. Boreal forest species are predominant, occupying about 90 percent of the park's total area. Jack pine and black spruce alone are dominant in approximately 55 percent of its area, followed by trembling aspen (25 percent) and white birch (10 percent). In the nutrient-poor acidic soils overlying granite, understory vegetation is almost exclusively boreal in nature as the harsh environment prevents the establishment of species belonging to other forest types. Leatherleaf, Labrador tea, sphagnum and a dozen or so other hardy northern species recur somewhat monotonously.

Mixed forest species are found sporadically throughout the park. Being at the edge of their range, these species are restricted to sites of hotter-than-normal microclimate on south-facing slopes, rocky ridge tops, lakeshores and islands, especially where richer, less acidic soils are present (e.g., metasedimentary and greenstone bedrock areas, alluvium on river floodplains and clay pockets). Red pine and white pine, because of their habit of growing in extensive, almost pure stands on the shorelines of lakes and rivers, appear much more abundant than is actually the case. In fact, these species comprise only 8 percent of Quetico's forest cover. Other mixed forest tree species of minor occurrence include yellow birch, white elm, red maple, silver maple and red ash. Characteristic shrubs and herbs of this southern association that are found in the park include hawthorn, poison ivy, stinging nettle, bittersweet, jack-in-the-pulpit and blunt-lobed hepatica.

Evidence of the western influence on the local flora is provided by elements of no fewer than three Great Plains forests, namely basswood from the dry-humid midwestern United States, red oak from the sub-humid mid-Mississippi area and bur oak-aspen from sub-humid Manitoba. As with mixed forest elements, the western species are normally confined to richer, less acidic sites. In addition, they favour the hotter, drier sites, often located on almost bare metasedimentary or greenstone bedrock along a lakeshore or near the top of a south-facing slope. Shrubs and herbs belonging to this western association include smooth sumach, alum root, freshwater cord grass and (at Rainy Lake, 32 km west of the park) prickly pear cactus.



Fire and logging have exerted a strong influence on the present forest cover of Quetico. Because of its drier climate, this region is more susceptible to outbreaks of fire than is much of the remainder of Ontario. Approximately 50 percent of Quetico's area has been burned over in the past 100 years. With regard to logging, the better stands of red and white pine were removed between 1900 and 1946. Between 1961 and 1971, the clear-cutting of jack pine and black spruce took place in the northeastern sector of the park. As a result of all these disturbances, less than 5 percent of Quetico's forests are over a hundred years old, while approximately 50 percent are under 60 years of age. Correspondingly, there is a scarcity of dominant stands of shade-tolerant climax forest species such as balsam fir and white spruce.

Although, in the past, Quetico's forests have seldom survived to make the transition from the pioneer stage to the theoretical climax stage, the increasingly efficient suppression of forest fires over the past ten to twenty years combined with the recent ban of commercial logging is beginning to reverse this situation. Under present conditions, young pioneer stands of aspen, birch and pine will tend to give way to more shade-tolerant coniferous forests.

Fauna

Mammals

Except in the northeastern and northwestern sectors, which have been cut over, most of Quetico, being occupied by coniferous forests, does not provide suitable habitats for a wide variety of animals. In the southern half of the park, the red squirrel and its major predator, the pine marten, are the most characteristic animals. Although other species such as mink, lynx, red fox and snowshoe hare are present, one can travel in the interior for days and not see them.



In sectors of richer soil in the park, especially the metasedimentary and greenstone bedrock areas, the Steep Rock Moraine, alluvial floodplain soils and in pockets of lime-rich lacustrine clay, dense thickets of young aspen and birch, hazel, raspberry, willow, mountain maple and mountain ash provide important habitat for moose and beaver – which, in turn, sustain their major predator, the timber wolf.

The cutover area in the park's northeastern sector is even more productive. Here, in a recent aerial census (February 1974), the population density of moose was estimated to be eight animals per sq km. After jack pine and black spruce were removed, exposing the deep rich soils of the Steep Rock Moraine to sunlight, a very heavy growth of browse vegetation sprang up, creating an excellent moose range. Timber wolf, black bear and red fox are also abundant here.

Quetico's climate is partially responsible for the presence of the white-tailed deer, porcupine, badger and least chipmunk. These are southern and western mammalian species not found at the same latitude on the eastern part of the Ontario section of the Canadian Shield. Being close to their northern and eastern range limits some of these species are subject to drastic population fluctuations, especially after severe winters.

Birds

Because close-canopy coniferous forests of jack pine and black spruce cover more than 50 percent of Quetico Provincial Park, birds of the boreal forest are overwhelmingly dominant. Some representative species include: common raven, grey jay, black-backed three-toed woodpecker, boreal chickadee, great grey owl, spruce grouse and many species of wood warblers, the Nashville, magnolia and mourning warblers being among the most common. Pine and evening grosbeaks, common redpoll, white-winged and red crossbills, pine siskin and purple finch are some of the very few bird species found in Quetico in the winter months.

Quetico is famous for its populations of bald eagle and osprey, majestic birds of prey which have drastically declined in numbers in most parts of North America. Both species still nest regularly throughout the park and are frequently observed by canoeists.



As a result of Quetico's transitional character, discussed above in the context of its climate and vegetation, an overlapping of typically northern, southern, eastern and western species of birds occurs. Birds at the northern limit of their range include black-billed cuckoo, scarlet tanager, indigo bunting and eastern wood pewee, while species common to the western prairies such as yellow-headed blackbird and western meadowlark have been recorded within the park.

Significant populations of waterfowl do not occur within the park primarily because of the lack of suitable breeding habitat. Common merganser, common goldeneye with isolated pairs of black duck and mallard are the most common breeding species. The park does not figure significantly as a staging or nesting area for migrating waterfowl, again because of the absence of suitable sites. Due to the scarcity of marshes in Quetico's rocky environment, the American bittern, pied-billed grebe, sora rail and other birds of densely vegetated waters occur only sporadically.

A large percentage of the recorded species, including almost all of the smaller passerines such as warblers, sparrows and thrushes breed within the park. In mid-June, the forests are alive with the sounds and activities of birds nesting and rearing their young. By mid-August, young birds are out of the nest, and southward migrational movements begin.

Reptiles and Amphibians

The relatively short summers and the long, cold winters of the Quetico area limit the number of species of reptiles and amphibians. Only seven species of frog, one species of toad and two species each of salamander, snake and turtle have been recorded within the park.





Fish

In order to relate the fish resources of Quetico Provincial Park to those in the remainder of Ontario, it is first necessary to examine certain salient physiographic and climatic features of the area. Of prime importance is the fact that the park, lying within the Precambrian Shield, is characterized by the presence of frequent expanses of bare, granitic bedrock and soils that are predominantly shallow, acidic and sterile. Lakes are numerous in the Shield and many are similar in their physical qualities (deep, generally clear, cold and low in productivity). They contain characteristic species such as lake trout, whitefish and ling.

Although Quetico is characterized by a rugged landscape of rock outcrops and a myriad of lakes, it is not typical of the Shield for several reasons. Firstly, bedrock in approximately 30 percent of the park consists of soft, moderately rich metasediments and greenstones, which release nutrients faster and in a form more available to plants than the hard, acidic granite does. Thus, Quetico soils (and consequently the lakes) are richer than those in Shield areas where bedrock is exclusively granite. Secondly, with the disappearance of Lake Agassiz, pockets of rich clays and silts were left behind in low-lying areas. These contributed significantly to the enrichment and partial filling-up of local lakes. Thirdly, Lac la Croix, adjacent to the park's southwestern boundary, is situated at the confluence of two drainage systems, one from Windigoostigwan Lake, French Lake, Pickerel Lake and Sturgeon Lake to the north, and the other from the lakes that form the Canada-U.S. boundary such as Saganaga, Knife, Basswood, Crooked and Iron to the east. As a result, Lac la Croix is a veritable catch-basin of dissolved solids of natural origin (clay, silt, minerals) and of man-made origin (phosphates, nitrates). Finally, situated as it is, close to the western border of Ontario, Quetico has a substantially different climate from that in other parts of the Shield. Weather systems originating in the central Great Plains affect the park by producing a somewhat warmer and drier climate with a longer growing season than that of similar latitudes to the east.

The cumulative effect of the foregoing factors in Quetico is a predominance of lakes that are somewhat more fertile and, consequently, more highly productive than are typical Shield lakes. Out of a sample of 130 lakes, only five were found to be deep and infertile enough to support only lake trout; 67 are deep enough to contain lake trout and also sufficiently shallow and fertile to sustain yellow pickerel, northern pike or smallmouth bass. Most of the remaining lakes contain only the latter species. Crappies, bluegills, pumpkinseeds and largemouth bass (species characteristically found in rich, warm, more southerly waters) are uncommon in Quetico, generally being restricted to the boundary waters area and Lac la Croix.



Man and the Parkland

History

Many portions of the park are still archaeologically unknown and those that have been surveyed have only been subject to cursory testing and, on rare occasions, limited excavation. As a result, available information about the long period of occupation by native peoples is incomplete and superficial in character.

A variety of introductory texts about the European history of the region by such authors as Littlejohn (1965) and Nute (1941) are available. MacDonald (1973) has compiled a bibliography of historical references to Quetico or Hunter Island, as much of it was formerly called. Numerous explorers, traders and travellers have left their impressions of the region in their journals. However, much archival research needs to be done concerning a variety of social and economic themes involved in the European history of the area.

Man's occupation of Quetico has been a long but intermittent one. Although the eastern extremity of the present park area appears to have been inhabited as early as 12,500 years ago, the earliest evidence of man's presence consists of a chert lance head of Agate Basin style found along an old strandline of glacial Lake Agassiz. Ten thousand years ago when early native peoples occupied the shorelines of this great glacial lake, the vegetation probably consisted of an open spruce parkland (Campling, 1974), and the major large game quarry may have been the caribou. Although concrete evidence is lacking, it would be safe to suggest that these pioneers of Quetico utilized a number of the small game, waterfowl, fish and edible plant resources which are now present.

Following the Paleo-Indian occupation of the region and the retreat of Lake Agassiz, evidence of man's presence continued to be sporadic and rare. All definite evidence is restricted to sites in the eastern half of the park, on large lakes along major waterways. Very little has been published concerning these Archaic peoples in either northwestern Ontario or Minnesota (Bleed, 1969; Kenyon and Churcher, 1965; Shay, 1971), but it is assumed that they practised a hunting and gathering economy very similar to that witnessed by early French explorers who travelled among the native Algonquian-speaking peoples of the Canadian Shield. With a climate and flora essentially similar to the present, the faunal resources of the area must also have been similar to those of today. It is further assumed that the social structure of the Archaic population was mirrored by the band structure of historic Shield peoples. One of the

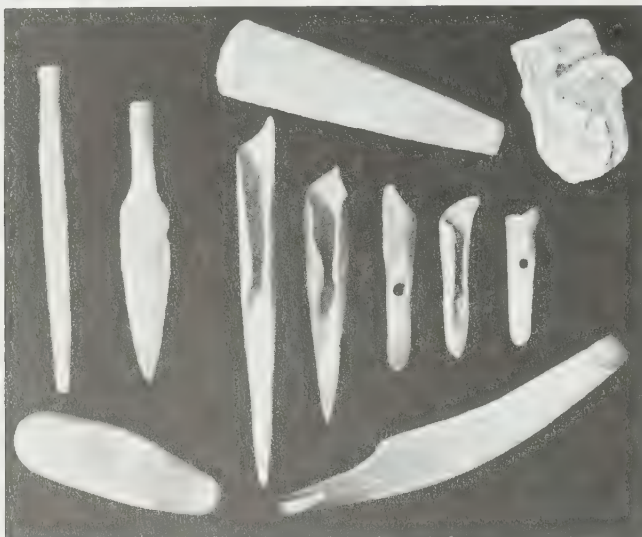
more obvious technological innovations of the period consisted of the cold working of native copper. A number of copper tools attributed to the period have been recovered in Quetico Provincial Park.

The introduction of ceramic technology represents the beginning of the Initial Woodland period (Wright, 1972). Although absolute dating evidence is presently inadequate, it is assumed that this period stretched from at least 300 B.C. to approximately 800 A.D., when a new ceramic tradition appeared. Manifestations of this latter period in Quetico, being more numerous than those of the two previous periods, occur across the region from east to west. Although the Laurel culture campsites display a more generalized distribution than sites of earlier periods, they tend to be restricted to the shores of the larger lakes.

Evidence of the economic pursuits and social structure of these peoples is limited in the region (Stoltman, 1973; Wright, 1967) and non-existent in the park. It is assumed that their life style was similar to that of the Archaic and subsequent inhabitants. As with most prehistoric sites in the Canadian Shield, faunal remains (bones from past meals) on sites in the Quetico region are rare, unless the bones were calcined due to generally acidic soil conditions.

One distinct manifestation of the social structure of the period is the presence of large burial mounds in the west along Rainy River, which suggests a significant social influence from more southerly cultural groups. The construction of burial mounds and the elaborate burial complex associated with them, continued well into the succeeding Terminal Woodland period in areas both to the east and to the west of Quetico.

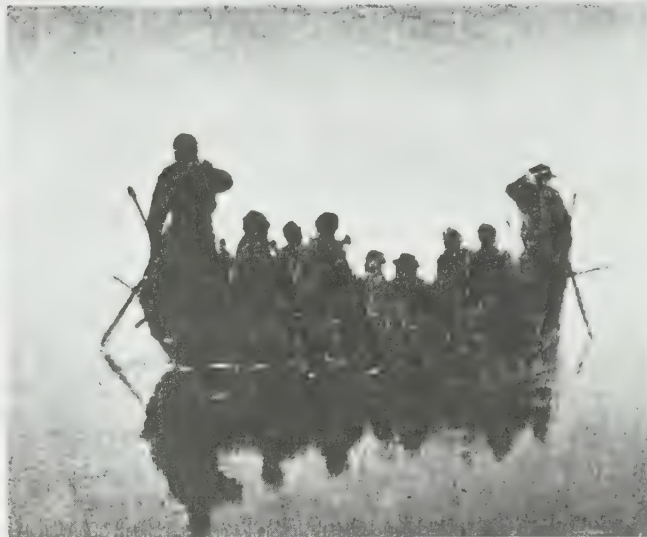
A further technical development from coil-constructed to paddled ceramics initiated the Terminal Woodland period, which continued up to the time of European contact in the seventeenth century. Not only the manufacturing technique, but also the form and decoration of the clay vessels differs from that of the previous period (Wright, 1972). A number of ceramic wares are represented in the Quetico collections, with Blackduck ware predominating. Stone projectile point styles continued to change from Paleo-Indian times onwards; and perhaps some time during the Initial Woodland period, the bow and arrow were introduced. Small, triangular and side-notched arrowpoints characterize the Terminal Woodland period. Finally, the use of native copper tools continued from Archaic times through the Woodland periods, although such tools tend to be smaller and less frequent in later times.



Campsites of the Terminal Woodland period are certainly the most abundant in the park and display the most generalized distribution. Evidence of these peoples is associated with large and small lakes, relatively isolated but accessible. Information concerning their economic pursuits has been obtained from a number of campsites in northwestern Ontario and Minnesota. It appears that fishing supplied the major food source, supplemented by hunting and gathering of edible plants such as wild rice. Available archaeological data on settlement patterns and ethno-history suggests that the native society of this period consisted of many small bands which may have divided into smaller units during the winter (depending on available food resources) and gathered together during certain periods of the warm season at the sites of abundant food resources.

Even before the appearance of the first Europeans in the seventeenth century, the people in Quetico undoubtedly were aware of their presence. European diseases were probably introduced before de Noyon's arrival in 1688. Throughout the late seventeenth and the eighteenth centuries, the native peoples of northwestern Ontario were increasingly drawn into the European fur trade. Participation in the fur trade not only influenced the economic pursuits and material culture of these peoples, but also their social structure. Trading posts, rather than being seasonally-occupied food resource localities, became focal points for band gatherings. Treaty 3, negotiated in 1873, officially marked the end of native control of the Quetico area and led to the establishment of a reserve on Lac la Croix which presently abuts the western boundary of the park.

Passing directly through Quetico Provincial Park are portions of two historically significant water routes used by explorers and fur traders from the seventeenth to the nineteenth centuries as major access routes to the west (Figure 10). The first one is the Boundary Waters Fur Trade Route touching the southern portion of the park and the other is the Pickerel Lake-Sturgeon Lake route which formed part of the Kaministiquia River Fur Trade Route. Both transportation corridors converge at Lac la Croix. During the New France period, both networks were used as a basis for exploration westward in search of a western sea, valuable furs and mineral deposits. After 1760, the boundary waters route endured as the most frequented and reliable passageway employed by independent fur traders and other Montreal-based trading associations.



By the late 1770s, fur trading activities in the area were dominated by the presence of the North West Company. An essential part of the company's operations was the maintenance of an elaborate transportation system. For two decades, it relied exclusively on the boundary waters route to get to the rich fur resources of the west. The settlement of the American boundary and the threat of new taxes forced the company to move its operational headquarters from Grand Portage to Fort William. These events also led to the rediscovery of the Kaministiquia River route used by the French. After the amalgamation of the Hudson's Bay and North West companies in 1821, this water network slowly became obsolete as the Hudson's Bay Company relied more on a north-south rather than an east-west transportation pattern.

Renewed interest in this area occurred shortly after Confederation when the federal government commissioned the construction of a line of communication between Lake Superior and the Red River country. This transportation corridor, known as the Dawson Route, followed the old canoe route used by the French and the North West Company. It was intended to compete with American rail facilities and to stimulate settlement by serving as a great colonization road, linking the West with the rest of Canada. After a decade of sporadic use, the Dawson Route was virtually abandoned when the Canadian Pacific Railway was constructed. Evidence of this route still exists within Quetico Provincial Park.

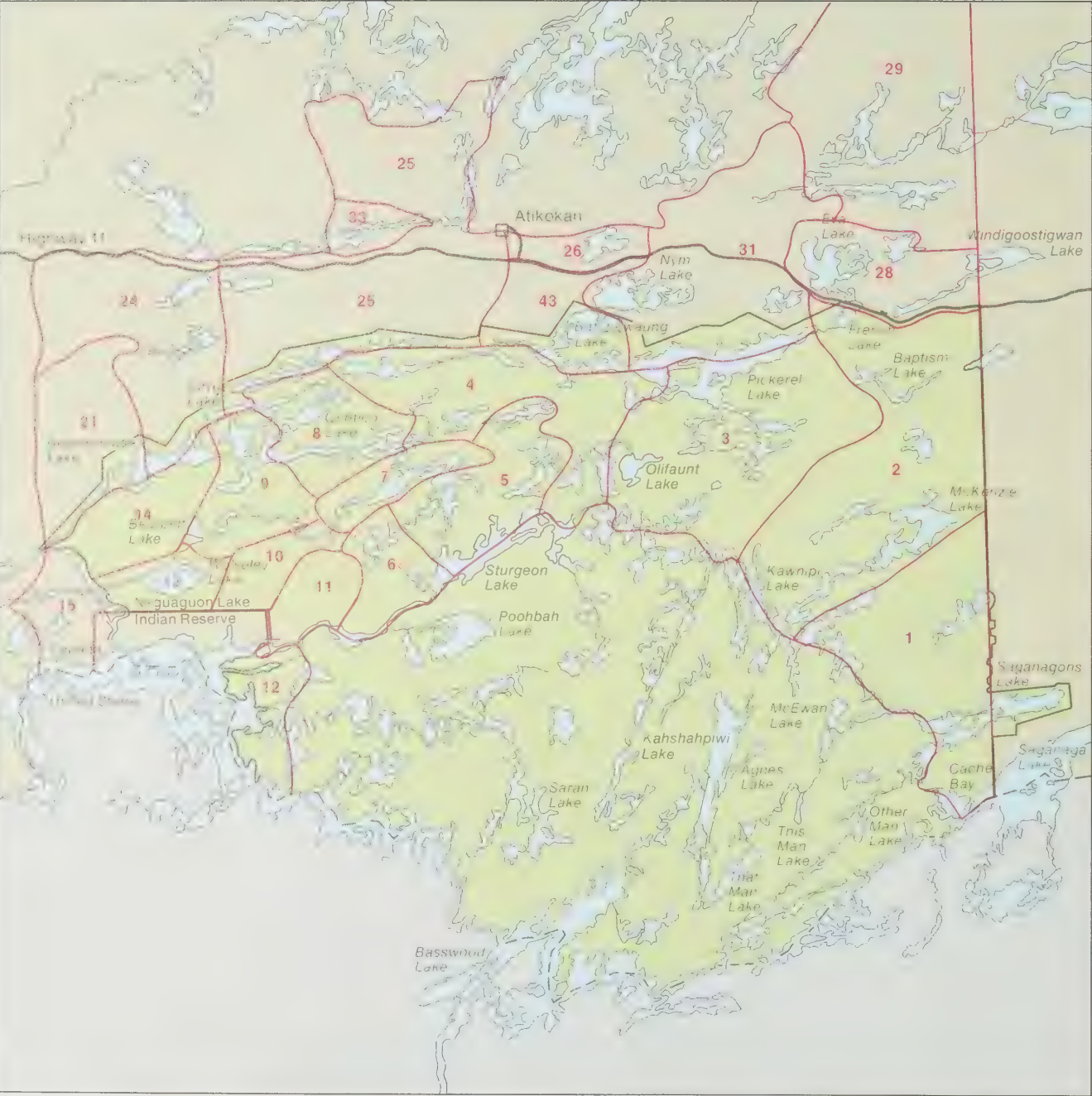
By 1901, Atikokan had been connected to the transcontinental railway system. The westward extension of the railroads stimulated the growth of the forest industry in this region. Much of the logging activity of this early era was geared to the production of ties and poles for use in railroad construction. In the early part of the twentieth century, large companies with centralized sawmilling operations were the predominant extractors of the Quetico resources. Various species were logged including red pine, white pine, jack pine, balsam, spruce, tamarack and cedar. Remains of former logging camps, depicting this era of Quetico's history, still exist within the park's boundaries.



Registered Trapplines

Registered trapline area

5





Resource Extraction

Trapping

Prior to 1909, trapping flourished in the area now encompassed by Quetico Provincial Park. With the establishment of the Quetico Forest Reserve in that year, however, trapping was prohibited. This ban remained in effect until 1949 when representation was made by the Indian Affairs Branch of the federal government to the Ontario Department of Lands and Forests to re-open part of the park for trapping. At this time, it was successfully argued that Quetico's fur resource could provide a much needed source of livelihood to members of the Lac la Croix Indian Band of the Niguaguon Lake Reserve. Initially, fifteen traplines were established in the northern and western sectors of the park. Trapping operations commenced on these lines in 1949.

In 1951, the Lac la Croix Indian Band made application for additional traplines. At this time, about forty trappers were without lines while an overpopulation of beaver existed in the park. As a result, additional traplines were established in the park's northeastern sector.

Subsequent to the re-introduction of trapping some twenty-five years ago, consolidation has reduced the number of traplines. Today, there are fourteen registered traplines contained wholly within Quetico and operated by Indian or Metis people. These lines are located in the park's northwestern, northern and northeastern sectors (Figure 6). In addition, as a result of an adjustment in the park's northern boundary, planned for implementation in 1977, portions of other traplines will be included within Quetico.

Commercial Fishing

Early records of commercial fishing activities in Quetico are quite limited. In the 1920s, a commercial venture was established on Pickerel Lake for lake trout, yellow pickerel and whitefish. The operation was short-lived, proving economically unfeasible. In 1959, a licence permitting the harvest of sturgeon in Lac la Croix was granted to the members of the Lac la Croix Indian Band. Annual harvests varied in the following years from a high of 5,100 kg to a low of 535 kg. Thus, because of the low monetary return, the licence was not renewed after 1970. Similarly, a whitefish licence was issued to the Indian band in 1960 but was not renewed after 1963.



Timber

The great stands of timber that once covered Quetico attracted the attention of forest harvesting interests. Extraction of red and white pine began in the early part of the century with licences being issued to Shevlin Clark in 1906 and to J. A. Mathieu in 1910. Old scaling records indicate that a total of 520,000,000 footboard measure (approximately 1,227,000 cu m; a footboard measure is one foot long, one foot wide and one inch thick) were cut between 1918 and 1946.

Cutting operations ceased in 1946 because of the depletion of merchantable stands of red and white pine and did not resume until the winter of 1960-61. At this time, the Jim Mathieu Lumber Co. Ltd. was issued a licence to commence operations in the park's northeastern sector. This licence incorporated some 1,060 sq km. Until the termination of commercial logging in 1971, about 510,000 cu m of jack pine, spruce, balsam and poplar were harvested. In the course of regeneration activities in the resultant 4,735 ha of cutover, approximately 3,117,500 tree seedlings were planted.

Although the northwestern portion of Quetico was included in a volume agreement between the Government of Ontario and the Ontario-Minnesota Pulp and Paper Co. Ltd., cutting operations were not initiated prior to the 1971 cessation of logging. Known as the Jean Lake Working Circle, this area incorporated some 1,100 sq km. Hunter Island, a 2,330-sq km sector of the park which comprises essentially its southern half, was set aside exclusively for recreational purposes in 1943. Subsequently, no commercial resource harvesting activities have occurred in this area.

On May 13, 1971, the Honourable William Davis, Premier of Ontario, in response to the recommendation of the Quetico Provincial Park Advisory Committee, announced to the Ontario Legislature that, effective immediately, commercial logging would be prohibited on all of Quetico's 4,655.5 sq km.



Land Alienation

As is the case in most areas of the Canadian Shield, the area presently incorporated within Quetico's boundaries has been subjected to periodic searches for potential mineral wealth. Prospecting for iron, gold and other lesser-known minerals has occurred primarily in the southeastern sector of the park with a number of patented claims being established. Subsequent to Quetico's designation as a provincial park in 1913, all prospecting and claim-staking activities were prohibited within its boundaries. However, this ban was lifted in 1939 as an emergency measure associated with the war effort and exploration was not again restricted until August 27, 1956. Claims and licences of occupation granted during this seventeen-year interval have been upheld. In total, some 37 patented mining claims and 64 mining licences of occupation, accounting for some 2,250 ha, were established within the park (Figure 7).

In keeping with the Ontario Government's policy that no mining activities occur in Quetico Provincial Park, an acquisition program for Quetico has been established and all claims and licences are in the process of being acquired. During the acquisition period, the development of claims for purposes other than legitimate mining activities has been prevented by the imposing of a Restricted Area Order on the park under the authority of Section 17 of The Public Lands Act.

Other forms of land disposal such as the sale or lease of private or commercial summer resort locations have not occurred in the park. However, when implemented in 1977, the realigned park boundary will incorporate some private summer resort locations and commercial outpost camps. These properties are situated on Batchewaung Lake and Saganagons Lake and will be included in the acquisition program for the park.



Park Establishment

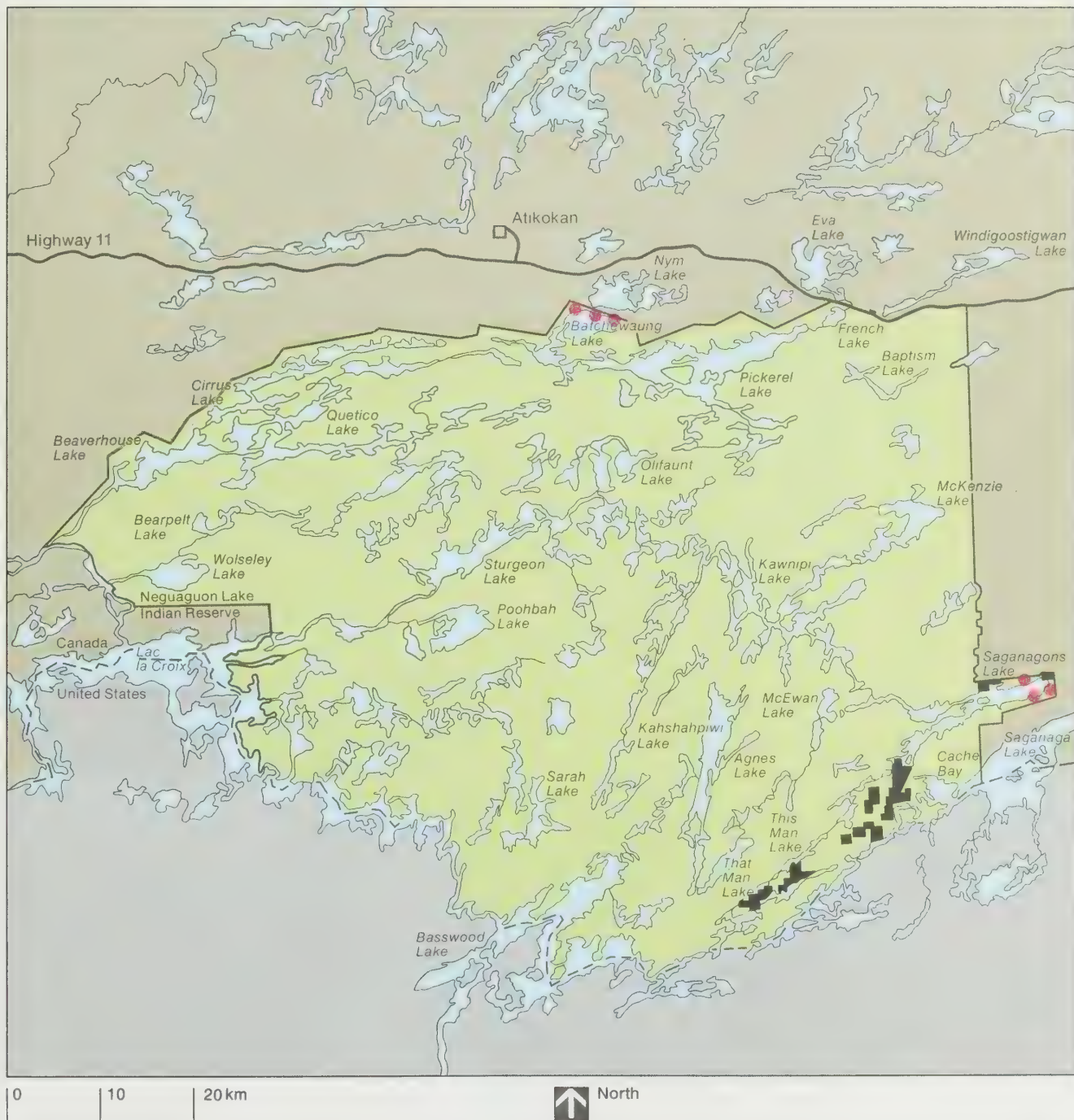
Quetico first received official recognition as an area of outstanding natural significance in 1909. By Order-in-Council, the Quetico Forest Reserve was established under the authority of The Forest Reserve Act and encompassed some 445,500 ha. The objective was to preserve the fine stands of pine found within Quetico and to retain the natural state of the area as far as possible. Four years later on November 7, 1913, an Order-in-Council changed the name of the Quetico Forest Reserve to Quetico Provincial Park. The park was to be "reserved and set apart as a public park and forest reserve, fish and game reserve, health resort and fishing ground for the benefit, advantage and enjoyment of the people of Ontario."

Since 1913, the boundary of the park has been adjusted several times (Figure 8). In 1930, another Order-in-Council extended the park's northern boundary to the Northland Railway Line (now part of the Canadian National Railway System). As a result, the rail line formed the boundary from Flanders in the west to the intersection of the rail line and the northward projection of the park's eastern boundary. This expansion added about 1,040 sq km to the park, bringing the total area to almost 550,000 ha. The main purpose of this extension was to provide a more easily defined boundary. Critics of the extension were subsequently successful in getting it revoked by Order-in-Council on May 22, 1934. As a result, the park boundaries were shifted to their original position and the park area returned to 445,500 ha.

Boundary adjustments were made again in 1941 by Order-in-Council, when some 129 sq km adjacent to the park's northern boundary were included, increasing the park area to some 458,400 ha. This adjustment brought Eva Lake into the park so that the park's headquarters could be relocated there, proximate to the rail line. With the completion of the Thunder Bay-Atikokan highway in 1954, the north boundary was again adjusted to run westerly along the southern side of this highway (now Highway 11) to the portage from Eva Lake to French Lake, southerly along this portage to the north shore of French Lake, and then along the north shores of the lakes of the original boundary. In addition, a one-mile buffer zone was established around the park and reserved from disposition. An Order-in-Council dated July 20, 1954 permitted these changes, and the park area dropped to approximately 453,250 ha. In response to the 1954 boundary adjustment, the park headquarters was relocated for the last time, from Eva Lake to its present site on Nym Lake.

Land Alienation

-  Mining claim
-  Private summer resort location / Commercial outpost camp



Boundary Adjustments

- Former boundaries
- Park boundary (1977)





A recent boundary adjustment occurred in 1968. At that time, the park area was increased by only 36 ha, to incorporate the site of a Dawson Route Way Station on the French River north of Highway 11. With the recent policy statement on Quetico, however, boundary adjustments have occurred once more.

The new boundary, planned for implementation in 1977, is discussed in the section entitled Park Boundary.

Existing Development

Facility development, associated with both recreational use and the Ministry's management responsibility, tends to be distributed around the park's perimeter (Figure 9). Thus, the interior of the park remains largely free of man-made structures.

Access facilities account for most development within Quetico. Currently, there are seven entry stations, of which five are located on the eastern, southern and western margins of the park. The five stations, accessible only by water or air, are: Cache Bay (Saganaga Lake), Prairie Portage (Basswood Lake), Cabin 16 (Ottawa Island, Basswood Lake), Lac la Croix and Beaverhouse Lake.

A typical station consists of an office-residence, a warehouse or boathouse and, in some instances, a small building used for overnight accommodation by members of the park's interior maintenance crews. Also associated with some stations are Canada Customs facilities operated by the federal government. Two customs stations with associated staff quarters are located in the park, one near Cabin 16 and the other at Prairie Portage.

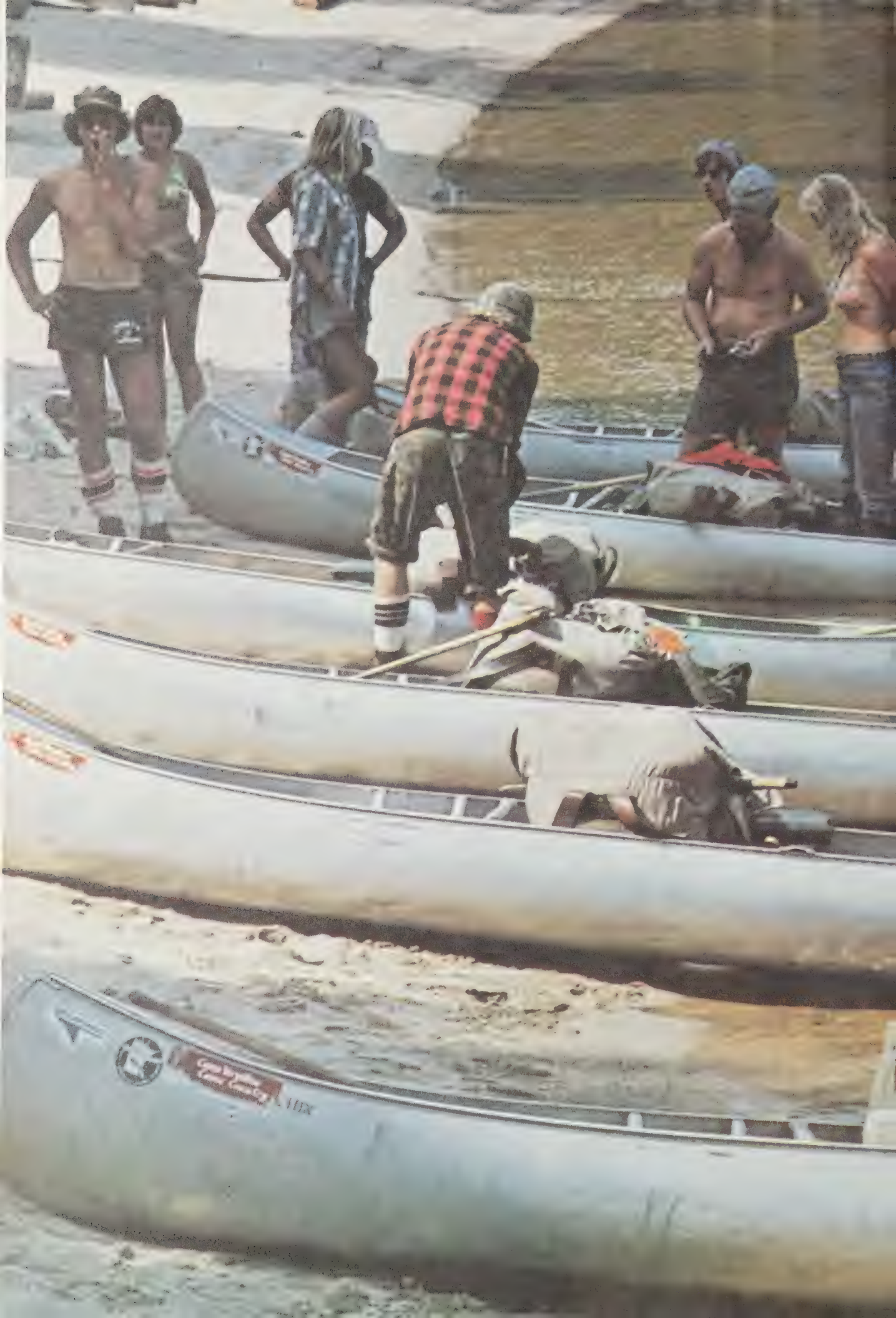
Only one entry station in the park, associated with the Dawson Trail Campground at French Lake, is accessible by road. Located in the northeastern corner of the park, this site provides facilities for day-use, car-camping and interior access. The day-use area is fronted by an attractive sand beach on French Lake. Activities include picnicking, swimming, canoeing, boating and fishing. Facilities associated with the day-use area include two comfort stations, a picnic shelter, 300 parking spaces, a concession building and a water pressure and chlorination system. The car-campground provides 135 tent and trailer sites. It is serviced by drilled wells and vault privies. Complementing the day-use and car-campground, visitor services facilities include an amphitheatre, a visitor centre, interpretive trails and a small office. With regard to interior access, facilities include a parking area and a boat-launching site.



Administrative facilities servicing the entire complex include a gatehouse, a warehouse, staff quarters, two dwellings and a park office building.

The seventh entry station, associated with the park's headquarters at Nym Lake, provides indirect road access to the park. Although situated outside Quetico's boundary, interior users obtain their interior permits at the park headquarters, depart from the nearby public access point and enter Quetico's interior by crossing Nym Lake and Batchewaung Lake. Beginning in 1977, however, the distribution of permits will no longer be available at the park headquarters but at a separate facility.

The few developments within the interior are generally associated with the fire detection towers that have now largely been replaced by aircraft patrols. The Kahshahpiwi Tower, Quetico's last operating fire tower, was manned in 1976 only during fire emergencies. This tower once served as a radio relay station between the park's headquarters and the southern entry stations, and it played an important role over the years in visitor emergencies. It became a point of interest as a result of its location on the park's most heavily used canoe route. Other fire towers not in use are also located on the south shore of Beaverhouse Lake and on the north shore of McKenzie Lake. The McKenzie Lake Tower is scheduled for removal; however, its associated cabin will be retained to serve park rangers. Additional park ranger cabins are situated at King Point on Basswood Lake, and on Sturgeon Lake.



Recreational Opportunities

Canoeing

The reputation of Quetico Provincial Park is based primarily upon its outstanding canoeing opportunities. The park's haphazard and disrupted drainage system provides a myriad of interconnecting lakes and streams from which the canoeist can choose a route suitable to individual preferences and abilities. Figure 9 indicates the most prominent of Quetico's canoe routes.

A variety of factors contribute to the quality of the canoeing opportunities available within the park. The extensive network of lakes and rivers increases the variety of the wilderness travel experience. The canoeist can choose a short and relatively easy trip or, alternatively, a lengthy one of several days duration requiring skillful canoe-handling and rigorous portaging. The visitor's realization that Quetico's waterways were plied in historic times by native peoples and voyageurs enhances the canoeing experience.

Canoeing activity within Quetico tends to fan out into the interior from the entry stations. Canoe routes are most congested in the southern sector of the park, which is accessible to the most heavily used entry stations. In the north, use is heaviest in that sector of the park accessible from the French Lake entry station. Paradoxically, the recent upsurge in the popularity of wilderness canoeing and the consequent increase in visitation levels has resulted in levels of congestion that have tended to diminish the quality of the wilderness canoeing experience in the most heavily used sectors of the park. The 1973 policy statement, however, effectively provides for the eventual elimination of mechanized forms of water travel in Quetico. As a result, the park will increasingly become the domain of the canoeist. A partial motor ban was implemented in April 1975, permitting only watercraft powered by not more than 10 h.p. (7.46 kw) on the following lakes: Beaverhouse, Quetico, Wolsely, McAree, Minn, Tanner, French and Pickerel, and on the Maligne River up to Tanner Lake, the Wawiyag River to Kawa Bay and the boundary waters. This ban prohibits the use of motor-powered watercraft on all other park waters.

Hiking

The recent realization of Quetico's potential for hiking, combined with a growing demand for hiking opportunities, has led to the provision of such opportunities within the park. In the past, it was considered unwise to develop hiking trails because of potential conflicts between the hiker and the canoeist, the traditional park user.

In the 1973 operating season, hikers were directed to the northeastern sector of the park. With few lakes and connecting streams, the area has relatively low potential for canoeing. It is the site of previously banned logging activities and is traversed by miles of abandoned logging roads. As a result of past logging activities and the subsequent proliferation of new growth, this area is rich in wildlife (particularly moose). The trail system, starting at the Dawson Trail Campground at French Lake, runs south to Howard Lake and then east to connect with the abandoned logging road system (Figure 9). From there, more than 160 km of interconnecting roads provide the hiker with numerous route alternatives.

The winter counterparts of hiking are snowshoeing and cross-country skiing. The trail system and the abandoned logging roads in Quetico are ideal for cross-country skiing in particular. Although there is no organized recreational program during winter, a special wilderness experience is available there for the enthusiast. However, precautions are necessary because of the severe winter climate.

At the Dawson Trail Campground, there are five short interpretive trails (1.5 to 2.5 km each in length) that are used primarily by auto-campers and day-users. Interpretive signs are located at points of interest, and scheduled hikes conducted by park naturalists are available on these short and relatively heavily-used trails. In addition, a 6.5-km hiking trail runs south and west from the campground to Pickerel Lake.

Fishing

Quetico Provincial Park is well-known for the quality of its fishing opportunities. A variety of sport fish are found within the park. The most sought-after species include yellow pickerel, lake trout, northern pike and smallmouth bass. As a general rule, anglers can catch most or all of these species within one water body.

A significant portion of Quetico users are attracted to the park principally as a result of the fishing opportunities found there. In addition, most interior users participate in angling at some time or other during their trip. The prevalence of angling within Quetico was shown by a 1967 survey in which 55 percent of the respondents listed fishing as one reason for visiting the park. This percentage varied among user groups from a high of 71 percent for motorboaters to a low of 50 percent for canoeists.

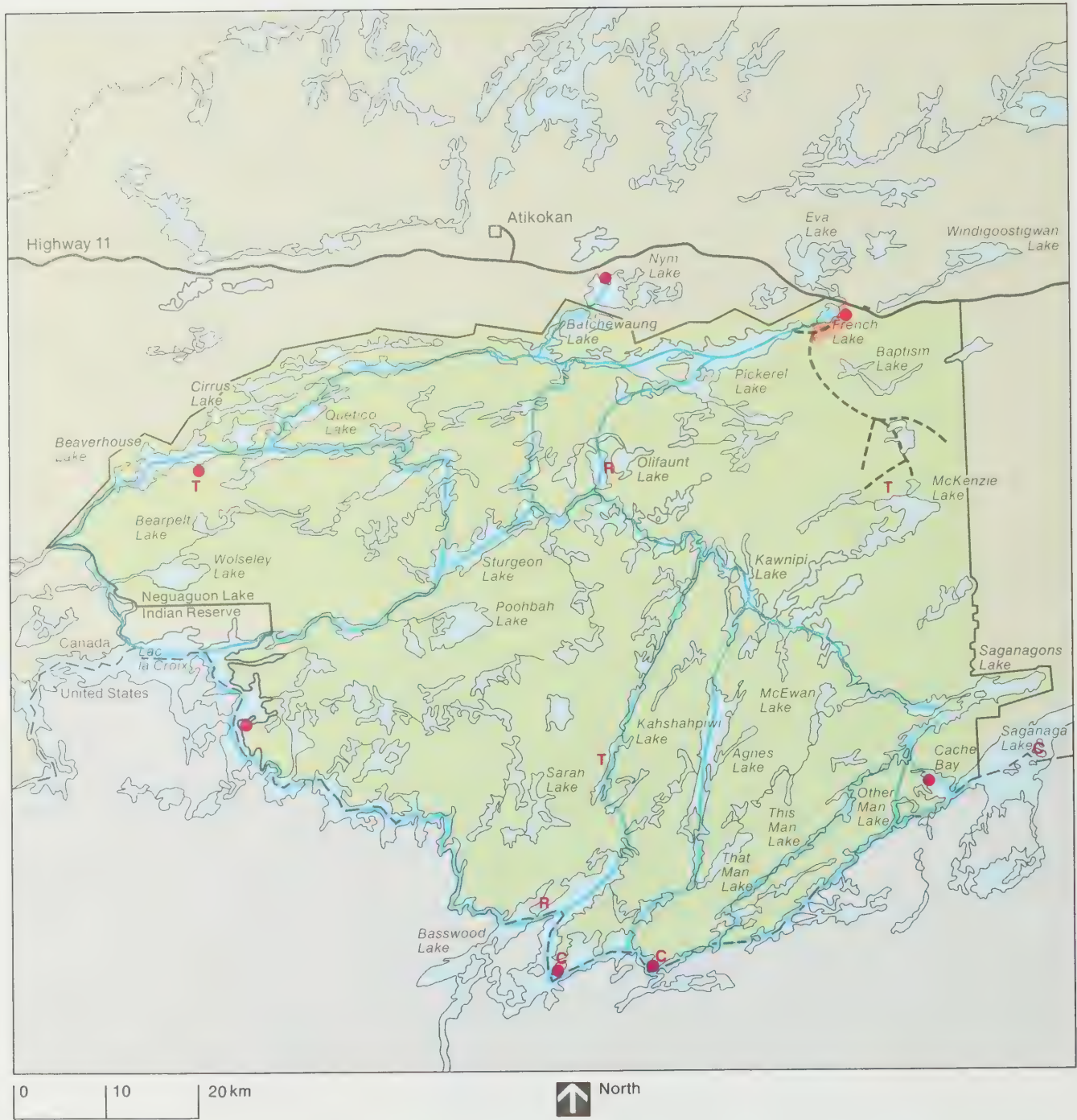
Figure 9

Major Canoe Routes
Hiking Trails and Development

- Major canoe route
- Hiking trail

Facilities and development

- Entry station
- Canada Customs
- Ranger cabin
- Fire tower
- French Lake development





Participation in fishing is not distributed evenly throughout the park's operating season. Quite predictably, the incidence of fishing is highest in spring and early summer, when park users interested solely (or at least primarily) in that activity are prevalent.

Fishing tends to be concentrated on the periphery of the park. This situation is not surprising since motorboaters represent the predominant angling group and it is difficult to portage heavy boats and motors. Thus, lakes popular with anglers tend to be those that are easily accessible. Such popular fishing areas include Beaverhouse Lake, Quetico Lake, Jean Lake, Saganaga Lake and the boundary waters.

As a result of the 1973 policy statement, which called for a ban on motor-powered craft within the park, a substantial change in the angling opportunities provided by Quetico is expected to occur. Without the opportunity to use motor-powered craft, most anglers will not be able to gain access on a daily basis to many of the prime fishing lakes located within the park, and the existing pressures on the park's fishery resource will be substantially decreased. Consequently, fishing opportunities for the canoeist in the interior should continue to be of high quality. The implementation of the partial ban on motor-powered craft has already initiated this process.

Recreational Carrying Capacity

Recreational carrying capacity, defined by Wagar (1964) as the level of recreational use an area can withstand while providing a sustained quality of recreation, is a complex concept of many dimensions. Lime (1970), in examining recreational carrying capacities in the context of wilderness areas, simplified the concept substantially by identifying its two major components: firstly, the capability of the biophysical base to sustain use without deteriorating; and, secondly, the tolerance of users to encounters with others. Essentially, then, the recreational carrying capacity of wilderness areas is defined by the most limiting of these biophysical and psychological capacities.

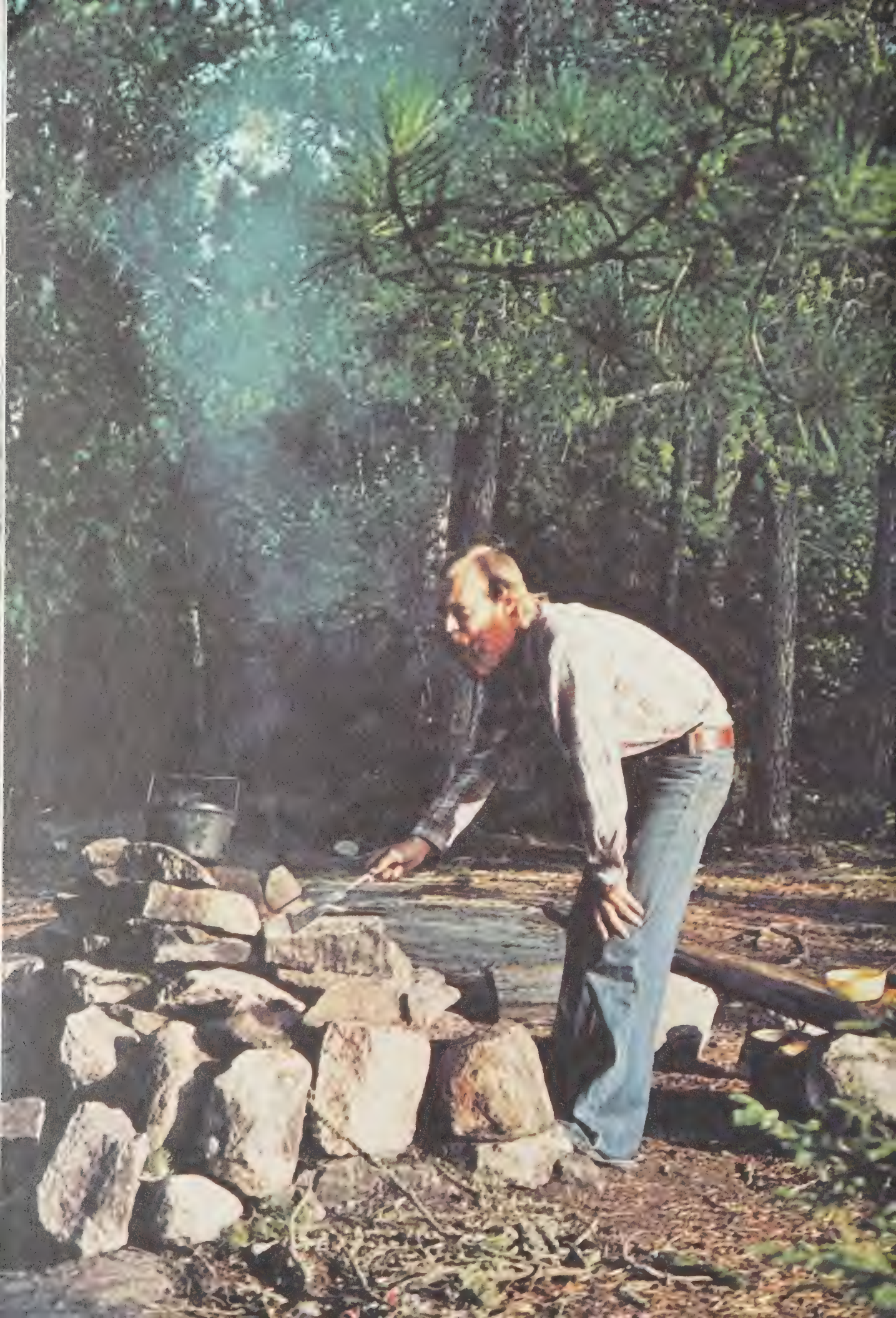
For an area the size of Quetico, carrying capacity is not easily determined. Traditionally, this knowledge has rested with old-time park rangers as well as the most ardent of park users. Although valuable as an input to many management decisions, this type of information is highly subjective and thus suffers serious limitations. Consequently, in recent years, a concerted effort has been made to approach the question of carrying capacity systematically by developing a data base which is both objective and comprehensive. To this end, a number of data collection projects have been

initiated. Because impacts of use are greatest where users concentrate, these projects emphasize interior facility developments, particularly campsites. Specific projects undertaken since 1970 include: an inventory and evaluation of the capability of Quetico's shorelines to supply canoe-camping opportunities; the identification of potential campsites; the ongoing monitoring of the condition of campsites and portages; and the estimation of user distributions on a lake-by-lake basis.

In combination, the capability of Quetico's shorelines, the quality of its existing facilities and the numbers and distributions of park users will provide a sound basis for park management. An understanding of the distribution of users provides an indication of the demands being exerted on the park's resource base as well as upon existing facilities (i.e., essentially campsites and portages). By relating parties and visitors to campsites, on an individual lake basis, areas of overcrowding can be identified. In such instances, reference to the canoe-camping capability data will indicate if and where additional campsites can be developed.

In defining the park's carrying capacity, in inventorying its facilities and estimating its use, it is important to ensure that Quetico's unique but often intangible attributes are not ignored. It is largely upon these qualities that Quetico's reputation as one of the continent's truly outstanding canoe-camping areas is based. The following subjective appraisal expresses in very real terms the truly outstanding potential of the park (B. Fraser's Foreword to *Canoe Trails through Quetico*):

"It is not easy to describe the peculiar charm of Quetico. The fishing is good but not sensational, the scenery delightful but not spectacular, the dozens of lakes not markedly different from each other or from any lakes on Canada's Precambrian Shield. What gives Quetico its special quality is its unique blend of past and present, history and geography. Here, preserved like a gilded fly in amber, is the Canadian wilderness as the explorers and fur traders knew it centuries ago, the Canada that caught the imagination of Samuel de Champlain and the Chevalier de la Salle, the Canada that David Thompson surveyed and Alexander MacKenzie travelled."



Regional Context and User Dimensions

The Role of Quetico Provincial Park

In order to place Quetico in perspective regarding its relationship to other regional and local recreational opportunities, it is helpful to consider briefly the traditional role of the park and the basic alterations foreseen as a result of implementing the 1973 Quetico policy statement. The park is renowned as a supplier of unparalleled opportunities for canoe-camping. However, canoe-camping has not been the only popular recreational use made of the park. Its peripheral lakes have long been used by fishermen and powerboaters. In addition, car-camping and day-use opportunities are provided at French Lake. The latter facilities are used predominantly by car-campers; a large percentage of them, however, do not set foot in a boat or canoe, let alone the park's interior.

The Quetico Provincial Park Advisory Committee carefully examined the potential of the park and recommended that Quetico should become the domain of the wilderness recreationist, particularly the canoe-camper. With the acceptance of the Advisory Committee's recommendations and their ultimate implementation, both the powerboater and the car-camper will become inappropriate user groups within the park. In effect, Quetico will become a special type of park and will provide canoe-campers in search of a wilderness experience with unique recreational opportunities. On the other hand, recreationists in search of the more traditional and intensive type of opportunity will have to look elsewhere.

Quetico constitutes a major component of an important system of parks, wilderness areas, park reserves and proposed parks centred around the historical travel corridor along the boundary waters between Lake Superior and Lake of the Woods (Figure 10). There are extensive opportunities within this area for water-dependent and water-enhanced recreational activities. To the west of Quetico, the proposed Voyageur National Park in the U.S. will provide opportunities for such activities as day-use, car-camping, powerboating and snowmobiling; to the south, the Boundary Waters Canoe Area offers canoe-camping, powerboating (with some limitations) and fishing; to the east, La Verendrye Wild River Park Reserve has potential for powerboating, fishing, canoe-camping and hiking; and further east, Middle Falls Provincial Park provides opportunities for day-use, car-camping and hiking. Quetico relates to this total system as the one area that can provide a canoe-camping experience in a natural setting and an atmosphere that is largely similar to what it was in the days of the voyageur. A second historical travel corridor, the Kaministiquia route, also

traverses the park. Important parks and reserves associated with this route include Kashabowie Park Reserve, Silver Falls Park Reserve, Kakabeka Falls Provincial Park and Old Fort William.

Quetico has been closely related to another type of travel corridor, Highway 11, connecting Thunder Bay and Fort Frances. The car-campground at French Lake provides needed stopover camping opportunities to travellers on that segment of the highway. With the implementation of the 1973 policy statement on Quetico, this use becomes incompatible with the park's goal. Alternative sites currently under consideration include Warner Lake Park Reserve, Kashabowie Park Reserve and Windigoostigwan Lake area, all of which have the potential to satisfy the growing demands for these types of opportunities. In addition, access points and canoe routes outside Quetico will provide alternative opportunities for canoeing, fishing and boating. These opportunities, together with the possible future development of White Otter Lake Park Reserve, will do much to reduce demands on Quetico, particularly for those opportunities which the park is not designed to provide. Quetico will realistically be able to provide a distinct alternative in terms of non-intensive outdoor recreation.

With the growing popularity of hiking, Quetico could form an important link in a future trans-Ontario trail system. The development of trails within Quetico would complement such a system.

Park Visitation

In 1975, approximately 36,500 visitors entered Quetico's interior. Of these, approximately 95 percent were American and, correspondingly, approximately 70 percent entered through the southern boundary of the park. The highest percentage (almost 60 percent) of the park's interior users entered through the Basswood Lake travel area (Figure 11). This area contains two entry stations, Prairie Portage and Cabin 16, the former being by far the most heavily used. Almost 30 percent of the interior users entered through the Pickerel Lake and Jesse Lake travel areas, which are the only ones accessible by road (the Jesse Lake area is accessible by road indirectly through Nym Lake). These two areas have traditionally provided the only major northern access to the park.

Regional and Historical Context





The distribution of use throughout all fifteen of the park's travel areas is closely related to the patterns of entry described above. A detailed analysis of park use undertaken in 1970 reveals that over 50 percent of visitors travelled through the Basswood Lake, Sark Lake and Agnes Lake travel areas, reflecting the park's most popular canoe route. Use was found to be distributed relatively evenly among the remainder of the travel areas and to range from approximately 4 to 8 percent of the total visitation. Visitation within Baptism Lake, McKenzie Lake, Mack Lake and Bearpelt Lake travel areas fell below this range. However, these areas represent parts of the park where canoeing opportunities fall below Quetico's average standard.

An analysis of user statistics has revealed the average length of stay of interior users to be 6.41 nights or approximately 7 to 8 days. Organized groups averaged longer lengths of stay at 7.4 nights than did unorganized groups at 5.66 nights. The impact of the organized group on the park's resource base is further indicated by party size; organized groups averaged over thirteen individuals per party whereas the corresponding average for unorganized groups was less than four individuals (Table 2).

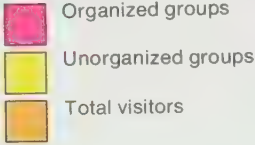
Table 2

Length of Stay and Party Size

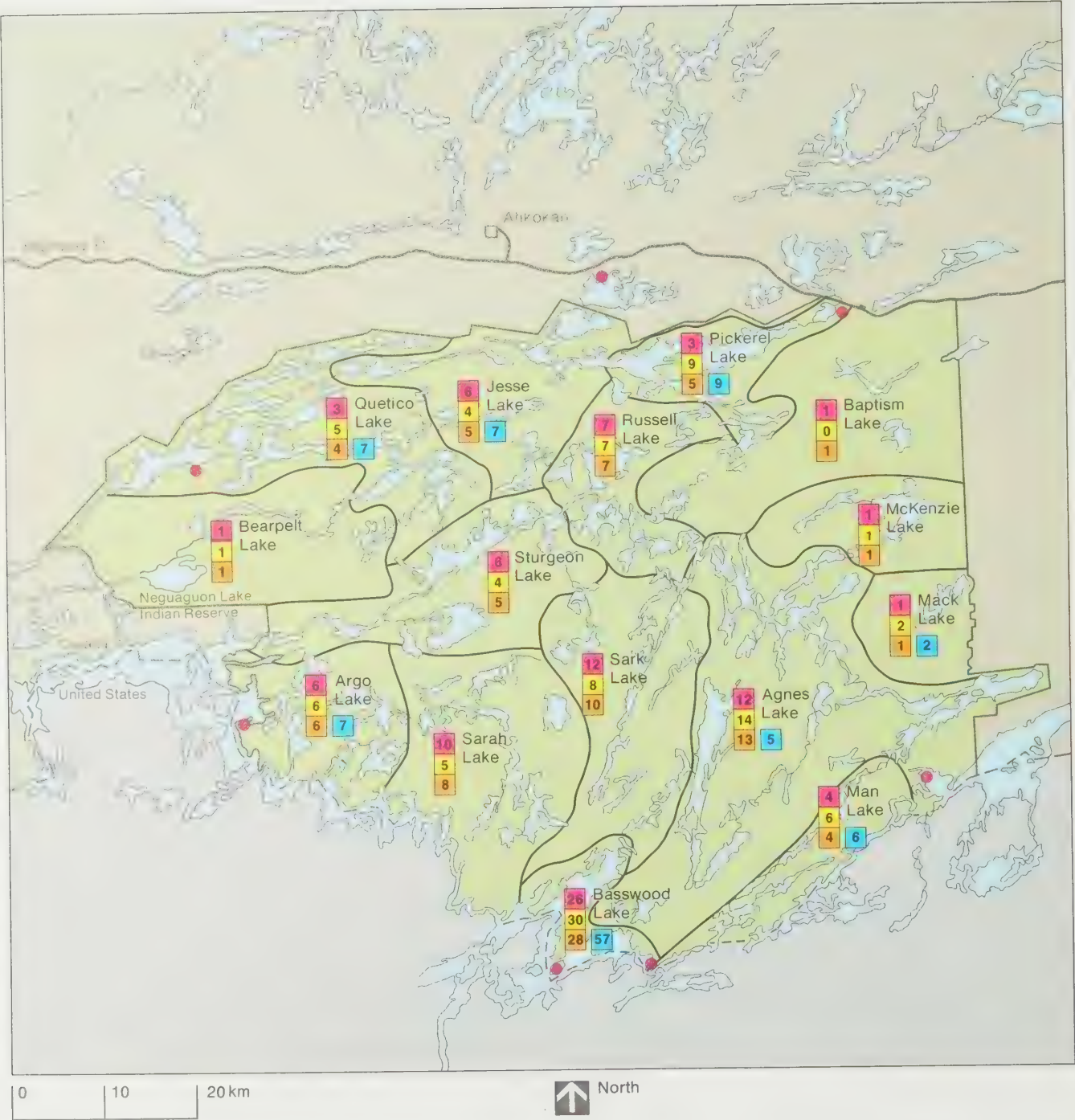
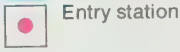
| Length of stay (nights) | Percentage of organized groups | Percentage of unorganized groups | Percentage of total visitors |
|-------------------------|--------------------------------|----------------------------------|------------------------------|
| 1 | 0.5 | 4.6 | 2.8 |
| 2 | 2.3 | 10.0 | 6.7 |
| 3 | 4.6 | 11.7 | 8.6 |
| 4 | 5.2 | 11.3 | 8.6 |
| 5 | 6.6 | 13.8 | 10.7 |
| 6 | 10.5 | 14.6 | 12.8 |
| 7 | 26.7 | 11.9 | 18.3 |
| 8 | 20.0 | 6.7 | 12.4 |
| 9 | 7.4 | 3.3 | 5.1 |
| 10 | 3.2 | 3.5 | 3.4 |
| 11 | 2.0 | 1.6 | 1.8 |
| 12 | 2.1 | 1.9 | 1.9 |
| 13 | 3.9 | 1.6 | 2.6 |
| 14 | 1.9 | 1.3 | 1.5 |
| 15 | 1.5 | 1.0 | 1.2 |
| 16 | 1.0 | 0.6 | 0.8 |
| 16+ | 0.6 | 0.6 | 0.8 |
| | 100.0 | 100.0 | 100.0 |
| Average length of stay | 7.4 | 5.66 | 6.41 |
| Average party size | 13.54 | 3.61 | 5.28 |

Visitor Distribution

Percentage of visitation
by travel areas



Percentage of entry by
travel area





Characteristics of Wilderness Users

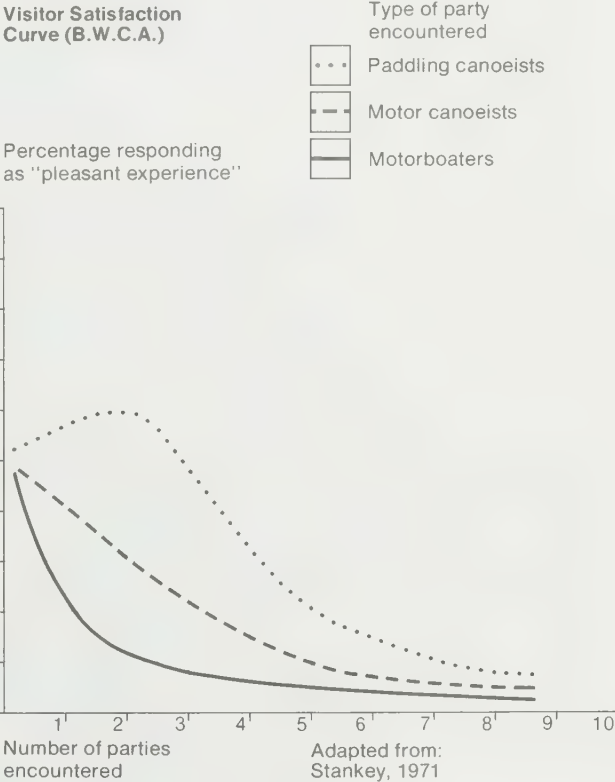
A number of sources were examined in order to obtain some insight into the characteristics, perceptions and attitudes of Quetico's users. With the exception of Lusty's *Study of Visitor Attitudes Toward Quetico Provincial Park* (1968), little of the available information relates directly to Quetico. Despite this scarcity of data, which is specific to Quetico, certain inferences can be made from other available information. A substantial amount of work has been done by Lucas, Stankey and Lime in the Boundary Waters Canoe Area (B.W.C.A.). Since this area is both adjacent and physically similar to Quetico and since a large proportion (almost 20 percent) of B.W.C.A. users continue on to Quetico, a degree of similarity between B.W.C.A. and Quetico users can be reasonably expected. Characteristics of users of other wilderness areas have also been examined.

It must be emphasized, however, that the characteristics noted in this section do not necessarily represent those of Quetico users. The attitudes of Quetico users may have changed substantially since Lusty's study. In addition, although there are a great many similarities in opportunities and use between Quetico and the B.W.C.A., differences do exist. The B.W.C.A. experience is more intensive than that of Quetico, and the characteristics of user groups are more divergent. With the implementation of the Quetico policy statement, for example the banning of motorboat use within Quetico, these differences will be further accentuated.

The work of Stankey (1971), who examined perceptions of wilderness users in four United States wilderness areas including the B.W.C.A., is comprehensive and comparatively recent. Stankey found solitude to be a desirable and important facet of the wilderness experience. The percentage of users expressing a desire for solitude ranged from a low of 72 percent in the B.W.C.A. to a high of 89 percent in Bridger, a western wilderness area in the United States. This lower figure for the B.W.C.A. may stem from a decreased expectation of solitude resulting from traditionally high use levels in the B.W.C.A. An additional reason, and perhaps more to the point, is that almost 50 percent of B.W.C.A. users are motorboaters or motor canoeists. This relationship is important since, as Stankey demonstrates, canoeists tend to react more strongly to encounters with other users. Thus, in relating the above research findings to Quetico, solitude can be expected to be a major factor, especially once the motor ban is implemented.

Stankey utilized a satisfaction curve (Figure 12) to illustrate the reactions of B.W.C.A. users to encounters. It shows that satisfaction is not only related to the absolute number of encounters, but also to the mode of travel encountered. The size of party encountered has also been found to affect user satisfaction. It was determined by Stankey that in the B.W.C.A. users preferred to encounter several small parties rather than one large party. When respondents were asked if they would prefer to encounter one large party or ten small parties, 19 percent favoured the large party while 48 percent favoured the ten smaller parties. The percentage favouring encounters with small parties increased as the number of small parties was decreased.

Figure 12







Stankey also examined spatial aspects of user perceptions of carrying capacity. It was found that tolerances were greatest on the wilderness area's periphery. In the B.W.C.A., 59 percent of users expressed a preference for encounters on the area's periphery, while only 14 percent preferred encounters in the interior.

The location of the campsite stood out as an important element in the user's perception of capacity and crowding. In the B.W.C.A., 79 percent indicated that camping near several other parties would bother them to some extent. Only 6 percent felt they would enjoy such a situation. Forty-two percent indicated campsites should be out of sight and sound of each other, and 37 percent suggested campsites should be some distance from each other.

Although wilderness users were not found clearly to favour or to oppose entry controls, Stankey found fairly strong agreement that controls were considered preferable to overuse. With respect to methods of control, it was found that 42 percent favoured some form of a mail reservation system, while 28 percent favoured a first-come first-served approach. Only 8 percent favoured assigned campsites.

This shows that the requirements of wilderness users are highly exclusionary. They place high value on solitude and prefer few contacts with other users, relatively isolated campsites, and an increasing degree of isolation as distance from the park periphery increases. Such preferences can be expected to be particularly strong in Quetico. Since paddling canoeists have been demonstrated to rank amongst the purest of wilderness users and since paddle canoeing will represent the only form of water travel within Quetico (with the full implementation of the motor ban), demands for a high quality wilderness experience can be expected to increase.



Park Policy

Park Goal

The goal is to preserve Quetico Provincial Park, which contains a natural environment of recreational and historical significance, in perpetuity for the people of Ontario as an area of wilderness that is not adversely affected by human activities.

Statement Explaining the Goal

Quetico will be planned, managed and operated as a wilderness park. *The Administrative Policies of the Ontario Provincial Parks System* (draft document, 1975) defines a wilderness as:

“A substantial area of land and/or water where the forces of nature are permitted to function freely; where the impact of man is largely unnoticeable; where the only method of travel is by historic, non-mechanical means; where there are opportunities for a wilderness experience of solitude, space, time and a personal integration with nature. Furthermore, it is managed in such a way as to ensure the evolution of natural processes.”

As a wilderness park, Quetico will be totally resource-oriented. Man is not considered to be incompatible with Quetico's wilderness landscape; however, his presence is acceptable only within an ecological context whereby man's numbers and technology participate rather than dominate.

Although the wilderness concept is intended to allow natural forces to function freely, one significant set of constraints must be recognized. Quetico's management philosophy must not result in the endangerment of values external to the park or of certain specified values within its boundaries. As an example, should a park fire endanger capital intensive access zone facilities or exterior commercial timber stands, Quetico's management policies must permit suppressive action despite inconsistency with the wilderness ideal. Thus, insect infestations, disease and fire (though all natural components of the park's ecosystem) may not be allowed to run their course naturally without management intervention. However, where such intervention in a natural process is undertaken, every effort will be made to minimize the environmental impact of the corresponding management actions.

With regard to user activities, low intensity recreation (essentially wilderness travel and associated activities), outdoor education and scientific research will be permitted. Although compatible with the wilderness concept, some degree of conflict is inevitable between these activities and the preservation component of the park goal. As a result, management action will be required to minimize this potential for conflict and thereby to maintain the integrity of both the biophysical environment and the quality of the user's recreational experience. Although the essential management technique employed to achieve this end will be the limitation of the amount and type of use, unobtrusive management of the biophysical environment will be permitted in instances where use is inevitably concentrated (e.g., campsites, portages, trails). The impact of such management input will be minimal, however, since related action will be undertaken only in response to conflicts precipitated by low intensity recreational activities.

Park Zoning

Two official zone types, a central wilderness zone and peripheral access zones, will be employed to guide the management of Quetico. In addition, research areas and special areas, although not constituting official zones as such, will identify areas within the wilderness zone that require specialized management consideration. A brief comment on a series of buffer zones, as identified in the policy statement, is included at the close of this section. It is emphasized, however, that these zones lie outside the park boundary and therefore should not be considered to fall within the terms of reference of this document.



Wilderness Zone

The wilderness zone, as shown in Figure 15 (insert), occupies all but 250 of Quetico's approximately 450,000 ha. The opportunities available within the wilderness zone comprise the *raison d'être* of the park. It is within this zone that a concerted effort will be made to preserve the revered qualities of Quetico, as identified in the park's goal. Thus, the wilderness zone will remain the domain of the natural process; the presence of the recreationist will be that of a privileged intruder, his activities being restricted to those not compromising the integrity of the biophysical base. Because of its dominance within the park, the wilderness zone is the focus of the detailed policy outline as contained in the following sections.

Access Zones

Ultimately, not more than seven access zones will serve Quetico Provincial Park. These zones, comprising less than one tenth of one percent of Quetico's total area, are distributed strategically about the park's periphery (Figure 15). In addition to these formal access zones, one external entry station at Nym Lake will function essentially as an eighth access zone. The role ascribed to the access zone (and to the external entry station), which is to facilitate visitor entry to the park, is strictly functional in character. By means of the visitor services program, the access zones will orient visitors to the interior and, functioning as a park gate through which all visitors must pass, it will provide a facility for monitoring and controlling the number of interior users.

A major emphasis of the Quetico policy statement is the development of additional opportunities for northern access. The implementation of this basic policy will achieve a number of important objectives. Firstly, additional northern entry opportunities will facilitate the use of Quetico by Canadians and, in particular, residents of Ontario. Secondly, in providing viable alternatives to the traditionally heavily used southern entry points, these entry opportunities will encourage user redistribution within the park. Finally, the resulting increase in user activity in areas adjacent to the park's northern boundary will tend to increase the economic impact of Quetico on the surrounding local Atikokan area.

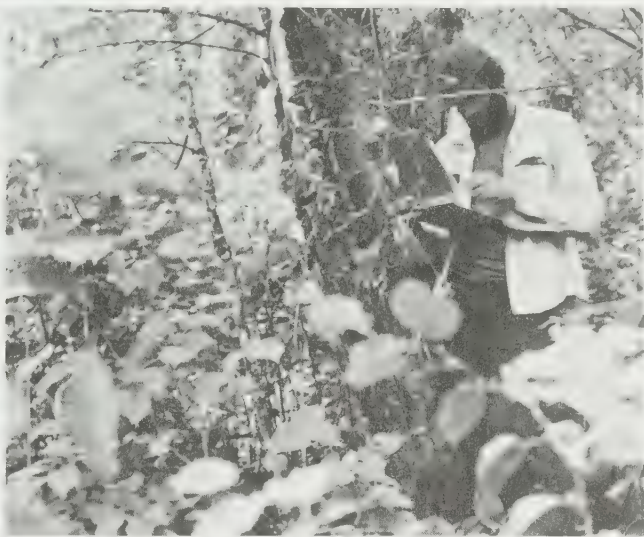
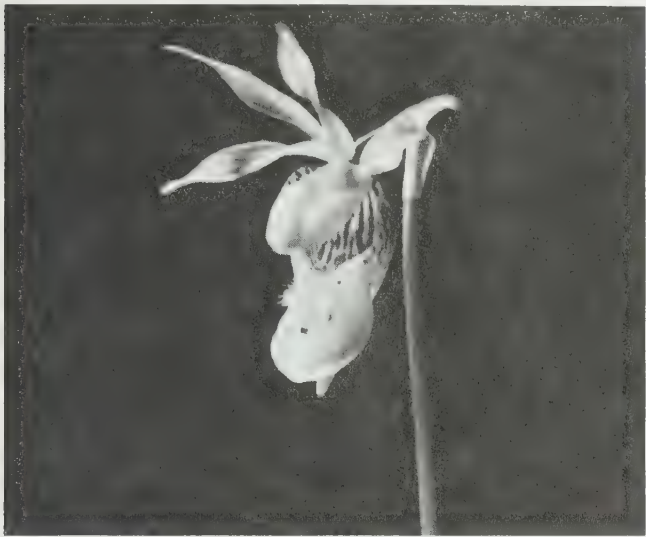


In designating individual access zones, the basic criteria considered were the site development potential and the location with respect to both adjacent access opportunities and park canoe routes. The first criterion ensures that an access zone can physically sustain the required facility development, while the second minimizes the possibility of excessive user concentrations within sectors of the park's interior. It is emphasized that the above-noted objective of increasing opportunities for northern access is achievable only to the extent that these site-specific criteria are not compromised.

Traditionally, Quetico has been served by seven entry stations. Cache Bay (Saganaga Lake), Prairie Portage (Basswood Lake), Cabin 16 (Basswood Lake) and Lac la Croix, all accessible by water only, are located on Quetico's southern boundary. Beaverhouse Lake and French Lake, accessible by water and road respectively, as well as the park headquarters at Nym Lake provide northern entry opportunities.

Of the six access zones established by this plan, five – Cache Bay, Prairie Portage, Cabin 16, Lac la Croix and French Lake – will incorporate existing entry facilities (Table 3). The sixth access zone has been designated at Beaverhouse Lake. However, in order that road access can be provided, this zone has been located on the lake's western shoreline adjacent to the park's periphery. The existing entry facilities situated on the eastern shore of Beaverhouse Lake will be phased out with the completion of development within the access zone. Finally, provision is made for a seventh access zone on Saganagons Lake. This zone, although not yet formally designated, will provide road access to the park's southeastern corner. The external entry station at Nym Lake will complement the park's formal access zones. Development of this facility was initiated in 1975 and it will become operational in 1977 (Figure 15).

As park user and resource studies provide more detailed information, adjustments to the roles of the respective access zones may be undertaken in the future. For example, the development of an access zone on Saganagons Lake will tend to direct use to the same water corridors as the existing entry station at Cache Bay. Similarly, the entry stations at Prairie Portage and Cabin 16 on Basswood Lake tend to direct park users to the same interior routes. As a result, subject to the findings of park carrying capacity and user distribution studies, it may be necessary to restrict significantly entry through one or more of these access zones.



Research and Special Areas

Research areas may be established to accommodate authorized scientific research projects. Management policies within these areas will differ from those applicable to the wilderness zone proper to the extent that both user activities and management practices may be more stringently controlled if required to ensure the viability of a given research project. The precise nature of these controls may vary from one research area to another depending on the actual requirements of individual projects. Research areas do not constitute a permanent area designation, but will remain in effect only for the duration of the project. However, depending on the requirements of a given project, an area designation could continue over a period of several years.

Special areas will incorporate features of the park that are of ecological, historical or recreational significance, particularly those that are fragile with respect to human activity. To this end, the existing program of identifying special features in the park will be continued and expanded. All special areas will be plotted on a master map that will be kept at the park administrative headquarters. This inventory of special areas will lend itself to a variety of practical applications. Firstly, such information will serve as an important general data source. Secondly, it will guide the management and operation of the park in order that the possibility of damaging special features will be minimized. Thirdly, where fragility is not a factor, special areas will constitute obvious foci of the park visitor services program.

Table 3

Access Opportunities

| Access zones | Road access facilities | | Water access facilities | |
|---------------------------------|------------------------|----------|-------------------------|----------|
| | Existing | Proposed | Existing | Proposed |
| Cache Bay (Saganaga Lake) | | | • | |
| Prairie Portage (Basswood Lake) | | | • | |
| Cabin 16 (Basswood Lake) | | | • | |
| Lac la Croix | | | • | |
| Beaverhouse Lake | | • | • | |
| French Lake | • | | | |
| Saganagons Lake | | • | | |
| Nym Lake Entry Station | • | | | |



External Buffer Zones

The Minister's policy statement on June 21, 1973 makes provisions for the establishment of three external buffer zones (Figure 13). A plan regarding land-use in the buffer zones will be prepared in accordance with the principles of multiple use. The guidelines for the delineation and management of each buffer zone as set down within the policy statement are as follows:

Zone A: A buffer zone of approximately 1.7 km in width will be established beyond the revised park boundary. No additional patented or leased property rights will be granted within this zone.

Zone B: An area of restricted land-use adjacent to Zone A will be controlled by a land-use plan which respects the values of the park.

Zone C: The entire watershed of Quetico Provincial Park will be considered as an area in which water quality standards will be enforced to protect park values.

Park Boundary

The park boundary will be partially realigned to minimize administrative problems, particularly as these relate to the enforcement of park regulations. In some areas, a lake shoreline has formed the boundary. Thus, parties camped on the shoreline, not being within the park, have not been subject to the park's regulations. In other areas, the boundary has passed through the central portions of lakes, and thus presented even more difficult administrative problems.

The revised boundary seeks to alleviate problems by ensuring that peripheral water bodies are either included in or excluded from the park (Figure 8 and Figure 15). Corresponding adjustments of a relatively major nature are: the exclusion of Lac la Croix from the park and the inclusion of Batchewaung Lake and Saganagons Lake. In addition, the northern boundary, moved inland from the northern shorelines of the park's peripheral lakes, is formed by a series of straight lines joining points not closer than 180 m to major park water bodies. Finally, excepting where affected by adjustments noted above, the southern boundary of the park will remain coincident with the Canada-United States boundary. Boundary adjustments were surveyed and cut and an associated legal description developed over a three-year period (1974 to 1976). The new boundary is planned to be implemented in 1977. All forms of private land tenure incorporated within the park as a result of the adjustment will, in due course, be acquired by the Crown.

Resource Management

The objective of the resource management program is to ensure that natural processes are allowed to function freely within the constraints of public safety and the need to protect internal park values as well as values external to the park.

In keeping with the wilderness concept of allowing natural forces to function freely, the active management of the park's resource base will be minimized. Management activity will be restricted generally to monitoring and research aimed at the detection of problems in their initial stages and the development of appropriate corrective measures as required. Where possible, potential problems will be avoided through such unobtrusive measures as the control of use (e.g., user quotas, fish limits, motor ban).

However, the necessity of actively managing the biophysical base through the suppression of such potentially destructive natural forces as insects, disease and fire will be unavoidable where these forces can be demonstrated to pose a threat to the values identified in the above objective. The need for a second category of active management input, an attempt to approximate natural processes, is more subtly induced. In fact, this need is created by the suppression of natural forces whose absence would tend to cause significant changes in the character of the biophysical base. Thus, the effects of these natural forces, were they not suppressed, must be approximated through resource management if Quetico's wilderness environment is to be maintained. Currently, fire by prescription is being investigated as a major tool that will facilitate the attainment of this end.

In addition, management action will also be required to minimize the impact on the biophysical base of park users engaged in compatible activities. Reflecting the distribution and concentration of users, this management requirement will be restricted generally to campsites and portages, and consequently treated in this document in the context of the development of recreational facilities. In addition, as noted above, policies regulating user activities and numbers will have an indirect effect and are later discussed in the context of user activities and visitor regulations. However, where the impact of user activity is more pervasive (e.g. man-caused fire), then associated policies are considered below.

External Buffer Zones

- Buffer Zone A
- Buffer Zone B
- Buffer Zone C





Individual resource management policies are discussed below under a series of headings, each representing one component of the resource base. It is important to note, however, that these components are not independent but, on the contrary, highly interdependent. Thus, although the respective policies and management planning requirements are listed separately, the integration of all facets of resource management will be a major objective of subsequent management planning exercises.

Air

Activities permitted within Quetico will be such that detrimental effects to air quality will be minimal. Since air quality problems will tend to originate outside the park's boundary, Quetico's objectives will be represented for consideration in external land-use decisions potentially having an impact on the park's air quality.

Water

A monitoring program to provide data on the quality of park waters will be established. The purpose of this program will be to ensure the early detection of any deterioration in water quality so that corrective measures can be undertaken during the initial stages of an emerging problem. In addition, land-use planning exercises undertaken in areas adjacent to the park will consider the problem of monitoring water quality outside the Quetico boundary but within its watershed. Finally, water quality along the boundary waters, an area of international water flow, is recognized as a potential problem. Here, the quality of Quetico waters may be affected by factors outside the jurisdiction of both the park and the province. Continued co-operation with United States government agencies will be maintained in an attempt to ensure that Quetico's objectives are not impaired.



As a general principle, water levels within Quetico will not be controlled. Therefore, no additional dams will be constructed. Most existing dams are simple, log or earth-filled structures constructed during the Dawson or logging eras. Often these structures, not significantly controlling water levels, no longer fulfill a useful purpose. According to evaluation in each case, these dams may be maintained, destroyed or allowed to deteriorate. Currently, the Pickerel Lake and Tanner Lake dams are the only two major dams situated completely within the park boundary (Figure 9 and Figure 15). Both dams, presently in good condition, control water levels, facilitating water travel on the French Lake-Pickerel Lake-Maligne River water corridor, a function incompatible with Quetico's goal. As a result, consideration will be given to the removal of these dams in conjunction with a gradual lowering of the artificial water levels which they maintain. At Prairie Portage, the park's third major dam straddles the Canada-U.S. boundary between the Inlet Bay on Basswood Lake and Sucker Lake. This dam is maintained by American authorities.

A water management plan will be prepared and will emphasize the monitoring and control of water quality and the management of dams.

Land

Prospecting, staking out of mining claims or the working of mines will be prohibited in Quetico Provincial Park. The titles to the mineral and surface rights for all mining claims, patents and licences of occupation located within the park will be acquired by the Crown. This program is ongoing and will continue until all properties have been acquired.

Sand and gravel deposits may be utilized in the limited maintenance required on interior recreational facilities such as portages, trails and campsites. Care will be exercised in the selection of sources of sand and gravel to ensure that significant earth science features are not destroyed. Sites will be discreetly located and contoured upon the completion of individual projects.

Vegetation

As a general principle, the park's vegetation will be allowed to respond to ecological processes without intervention. However, as noted in preceding sections, there are circumstances in which natural forces such as insects, disease and fire must be suppressed. Consequently, if the wilderness ideal is to be attained, it may be necessary to simulate the effect of the natural process through specific management action. As noted above, fire by prescription, emphasizing managed natural fire, is currently being investigated as a means to this end.



Commercial logging will not be permitted in Quetico. Cutover areas, created by former logging operations, have been scarified and, where necessary, planted. No further artificial regeneration will be undertaken in these areas. The Domtar logging camp, formerly located on the north side of the French River, has been removed. The rehabilitation of its site is scheduled for completion in 1977. All associated timber access roads extending southward into the park have been closed to vehicular traffic and will be allowed to regenerate naturally. To ensure that vehicular access to this road network is effectively prohibited, the associated bridge over the French River has been removed.

Fish

Commercial fishing is not permitted in Quetico. Regarding recreational use, angling is considered as one component of the total wilderness experience but not as an end in itself. Therefore, users will be encouraged to fish only for food and not to carry fish out of the park. It is also anticipated that the eventual banning of motorboats, although implemented primarily to ensure a quality wilderness canoeing experience, will result in the substantial reduction in angling pressure.

The manipulation of limits and seasons will comprise the major fisheries management tool employed within Quetico. Limits and seasons will be established on a periodic basis to ensure that the quality of the park's fishery resource is maintained. In addition, these regulations may be applied on an individual lake basis and may vary from temporary to permanent restrictions and closures. Consequently, fisheries regulations applied within Quetico need not necessarily comply with those in effect outside its boundary.

In keeping with the wilderness concept, the stocking of either native or exotic fish species will not be undertaken. Furthermore, the use of live bait-fish will not be permitted in order to minimize the establishment of non-native fish populations. Land-use planning within the park's exterior buffer zones will consider the implementation of bait-fish regulations which complement those in effect for the park.



The existing lake survey program will be continued and intensified where necessary. This program will provide a data base against which the monitored characteristics of the park's fishery can be related and upon which management decisions can be based. The monitoring of the fishery resource will be accomplished through an ongoing creel census program. The traditional approach to creel census will be modified, wherever possible, to minimize its impact on the park user.

A fisheries management plan will be prepared and will take into account such factors as the detailed definition of lake survey methods, the monitoring of the park's fishery resource and the criteria for setting limits and seasons.

Wildlife

Direct management of wildlife populations may be undertaken when the condition of wildlife populations within the park poses a threat to public health or safety (e.g., nuisance bears) or to the health and well-being of animal populations external to the park (e.g., tularemia). It is recognized that wildlife habitat will be affected to the extent that fire is employed as a resource management tool. Otherwise, wildlife populations will not be actively managed. There will be no introduction or reintroduction of species. In addition, hunting will not be permitted.

Trapping will constitute the only form of resource extraction permitted in Quetico. Although active traplines will be retained, they will be retired should they fall into disuse for a period of three years. This gradual retirement of traplines is aimed at the ultimate exclusion of trapping from the park. In the interim, trapline operations will be monitored so that quotas, set to ensure that fur-bearing species are not depleted as a result of trapping pressure, are not exceeded. In addition, trappers will be required to provide relevant information to the Ministry as a valuable input to Quetico's wildlife management programs.

Trappers will be allowed to use snowmobiles and motorboats to travel to and from, and while tending, their traplines. Also, four aircraft landings per trapping season will be permitted for each trapline as a continuation of the traditional park management practice. Existing trapline cabins may be improved and new ones constructed, but there will be a limit of one cabin per trapline; where practicable, one cabin will serve two or more traplines. Cabins will be discreetly sited, away from shorelines and off major canoe routes. Portions of traplines that are partially included in the park as a result of boundary adjustments will be treated in the same way as those that are entirely within the park.





A wildlife management plan will be prepared and will include: a description of the park's animal populations (their characteristics, habitat requirements, etc.); the monitoring and control of unhealthy animal populations; consideration of the effects of fire by prescription on animal habitats and their associated populations; and management guidelines with respect to trapping.

Insects and Diseases

Insects and diseases will be controlled only when important internal park values or values external to the park are endangered. To this end, the ongoing program of monitoring and detecting areas with insect or disease infestation will continue.

Techniques used to control insects and diseases will be those that cause a minimum degree of unnatural impact on the park environment. For example, biological controls or fire by prescription, if feasible in a given situation, would be considered preferable to the use of chemicals. Chemical controls may be employed only when monitoring programs indicate that a critical situation is developing and that no other technique will suffice. The area treated will be limited to the extent possible. Chemical treatment over water bodies will be prohibited.

Fire

As a prerequisite to the implementation of a fire management program in Quetico, a thorough study of the relationship of fire to the ecology of plant communities in the park was initiated in 1975 and continued through 1976. This study emphasizes an inventory of vegetative types, the dates and locations of old burns and the effects of fire on existing plant communities. Data analysis will enable the determination of the ecological role of fire with respect to all species or at least their major communities.

As additional information becomes available to support the use of fire as a park management tool, then a fire management plan will be tailored to suit the needs of the ecosystems within the park. This plan should consider the role of fire by prescription with emphasis on the following: managed natural fire; the need for hazard reduction; the prediction of fire behaviour for defined fire management areas; and criteria for instantaneous fire management decisions, wildfire control and suppression and the evacuation of recreationists. The study initiated in 1975 comprises the first stage of this fire management planning process.



The fire management plan will constitute a major component of the overall resource management plan for Quetico. It will emphasize the interrelationships of the various elements or components of the park's resource base and consequently recognize the need for the integration of the management planning carried out according to various branch responsibilities. Fire management is emphasized as a major component, since fire is the major tool which could be used to approximate a natural forest and thereby natural wildlife habitat conditions.

Until such time as fire management technology has been developed sufficiently to permit the sophisticated approach to fire management outlined above, the existing fire control program will be continued except as modified here. Primary fire detection within the park will be accomplished through the aerial detection program. In addition, fire towers may be used to provide supplementary fixed-point detection, and lightning detection devices may be installed. Finally, co-operation between Quetico Provincial Park and Superior National Forest in fire detection and suppression along the Canada-U.S. border area will be maintained.

Fire crews will be trained in fire fighting techniques which cause a minimal impact on the resources. Heliports, aircraft landings, fire camp facilities and other fire fighting support installations will be located away from major recreational waterways. Heavy equipment will not be used except where its application is essential to maintain public safety or to protect endangered external park values. Chemical fire retardants may be used, but in strict accordance with provincial and supplementary regional policy. Since the chemical retardants are incompatible with the wilderness ideal, their use will be minimized.



User Activities

The objective with respect to user activities within Quetico is to provide opportunities for wilderness recreation, outdoor education and scientific research.

In terms of numbers of users, the major component of this objective is wilderness recreation. Those recreational activities considered compatible with the wilderness orientation of Quetico are identified below. Because of their importance with regard to maintaining a quality user experience, controls on the numbers and activities of users engaged in acceptable activities are discussed in the following section. In addition, the conditions under which scientific research will be permitted are outlined. Although specific mention is not made of outdoor education users, this user group will comply with the policies which apply to wilderness recreationists.

Recreational Use

Recreational activities permitted within Quetico will include primitive travel (e.g., canoeing, hiking, snowshoeing, cross-country skiing) as well as those activities that are associated and compatible with primitive travel (e.g., camping, fishing, photography, viewing). The types of primitive travel provided for will only be those that are consistent with the historical context of the park. For example, although horseback riding and sailing may be considered as primitive forms of travel, facilities for these activities will not be provided for within Quetico. In addition, the use of Quetico in the teaching or practising of consumptive or destructive wilderness survival techniques (i.e., living off the land) will be prohibited.

In keeping with its wilderness ideal, the recreational use of all mechanical forms of transportation will be ultimately prohibited. Upon the full implementation of the plan, this ban will include motor-powered watercraft, airplanes, snowmobiles and all-terrain vehicles. With regard to motor-powered watercraft, a partial ban, which permits motorcraft powered by not more than 10 h.p. (7.46 kw) on designated park waters only, was implemented by regulation in 1975 and will remain in effect through 1978. Designated waters include the following lakes: Beaverhouse, Quetico, Wolseley, McAree, Minn, Tanner, French and Pickerel, in addition to the Maligne River up to Tanner Lake, the Wawia River to Kawa Bay and the International Boundary Waters. The 1975 regulation excluded the use of motors from all other park waters. The total banning of motors throughout the park will be implemented in 1979. With regard to aircraft, landings will be permitted on Beaverhouse Lake until such time as road access is provided to the corresponding access zone.



Furthermore, to minimize the impact of overflights on the wilderness user, Ontario will recommend to the federal government the establishment of a 1,220-m flying ceiling over the park. Finally, the recreational use of snowmobiles and all-terrain vehicles will not be permitted within Quetico under any circumstance.

Research

Scientific research will be encouraged. However, individual research projects must contribute to the existing knowledge of the park's resource base, have practical application to park management problems or employ the park as a base reference where no viable alternatives exist. Thus, Quetico will not serve as a generalized laboratory for all types of scientific research. Furthermore, regardless of their respective orientations, all research projects must be compatible with the park's goal. Depending on both the value and the requirements of a given project, a research area may be designated.

To initiate a research project, a detailed written proposal must be submitted to the Ministry at least two months prior to the anticipated starting date. Following a review process, written authorization will be provided for each approved project. In addition to permitting the initiation of the project, this authorization will specify any conditions upon which approval is contingent. Finally, researchers will be required to report to the Ministry in writing on the findings of each research program. If the duration of a given program is greater than one year, the submission of an interim report will be required within six months of the close of each field season.

A number of restrictions must be applied in order to minimize the impact of the research project on both the resource base and on other users. The removal of biological specimens and archaeological excavations may be permitted, but only by specific authorization. It is emphasized that archaeological research, in addition to complying with The Provincial Parks Act, must also be licenced under The Ontario Heritage Act. All research projects, resulting in the approved alteration of a site (e.g., digging, plant collecting, anchoring of instruments, etc.), must include a rehabilitative component which will restore the site to its original condition as closely as possible. Finally, the construction of permanent structures to facilitate a research project will not be permitted.



Visitor Regulation Program

The objective with respect to the visitor regulation program is to minimize, through the control of use levels and user activities, the deterioration of both the park's biophysical environment and the quality of the user's wilderness experience.

The exclusion of non-compatible uses, as discussed in the preceding section, will not in itself ensure that the quality of the wilderness environment is maintained. Ultimately, as recreational use continues to increase, even compatible user activities must be controlled. In recognition of this need, a visitor regulation program will be developed which will control the numbers as well as certain actions of park visitors engaged in activities compatible with the park's wilderness orientation. This visitor regulation program will be based upon a defined recreational carrying capacity for the park, which in turn will be derived from the analysis of the capabilities of both the resource base and of existing developed facilities (mostly campsites) to sustain use and of the tolerance of wilderness users to encounters with other user groups. Once defined, the visitor regulation program will be established to ensure that this capacity is not exceeded.

It is emphasized that, as a general principle, every effort will be made to ensure that visitors experience the maximum freedom of choice once entry to the interior has been gained. To this end, the visitor regulation program will strive to impose necessary restrictions on park visitors prior to their entry into the interior and, preferably, prior to their arrival at an access zone. Consequently, the primary vehicles of the visitor regulation program will be the entry quotas.

Data collection leading to the development of entry quotas was initiated in 1970 when Quetico's shorelines were inventoried and evaluated to determine their capabilities for canoe-camping. In subsequent years, an ongoing program has identified and monitored all existing campsites. Complementing these inventories of existing and potential campsites is a study of the numbers, characteristics and distributions of Quetico canoeists. This study, based on a trip travel report format, was initiated in 1975 and will be continued as required in order to update the data base.



Based upon these two basic sets of information (campsite supply and user distributions related to campsites), a visitor regulation program will be developed. Recognizing the ideal of imposing a minimum of travel restrictions on the park visitor once entry to the interior has been attained, this program will seek to establish an entry quota for each entry station, which will ensure that the interior campsite capacities of defined areas are not exceeded. To this end, a travel prediction model is being employed. Entry quotas together with a visitor reservation system will be implemented in 1977.

In addition to entry quotas, other regulations, primarily regarding party size and length of stay, may be employed. With regard to party size, the number of individuals per campsite will be limited to ten in order to minimize campsite deterioration. As more definitive information on the impact of large parties becomes available, this party size limitation may be adjusted. In the short term, at least, the above limitation will conform to the corresponding standard being enforced within the adjacent B.W.C.A. Recognizing the impact of encounters with large groups on the quality of the wilderness experience, a limitation on party size, irrespective of the campsite, may be implemented. With regard to length of stay, a limitation may be imposed at campsites situated within heavily congested sectors of the park, particularly in the vicinity of access zones or along important travel corridors. Furthermore, in situations of extreme demand, the length of stay in the park at large, or in certain sectors, may be limited below the existing maximum period of 28 days. The specific degree of control will be identified within the detailed visitor regulation program.

To maintain the quality of the wilderness environment, a number of additional restrictions are required. The use of non-burnable but disposable food and beverage containers will be prohibited in the interior. All other containers along with metal foils and other refuse, which is not burned, must be carried out of the interior by the park visitor. These restrictions will come into effect in 1978 following an information program commenced in 1977. Also, in areas of critical firewood shortage, or during periods of extreme fire hazard, visitors may be required to carry portable stoves. Finally, in order to ensure full control of user activity, the establishment and use of outpost camps will be prohibited.



It may become necessary in the future to establish separate quotas for residents and non-residents to ensure that residents have access opportunity to their resource. The essential concern here is that, as both resident and non-resident demands continue to increase and the park's defined capacity cannot accommodate both, the overwhelming disparity in proportion between residents and non-residents will result in a situation whereby residents might be denied access while non-residents saturate the park. Thus, separate resident and non-resident quotas will be incorporated into the visitor regulation program if required to avoid such an outcome. This ratio will ensure that, within the constraints imposed by the defined wilderness recreational carrying capacity, the satisfaction of resident demand is given priority.

Visitor Services

The objective of the visitor services program is to ensure that the park users can develop an appreciation of the intent and meaning of the wilderness concept as set down in the park goal, that they can become acquainted with individual park themes, that they can have access to information of specific interest and can be made aware of the various policies and regulations which will have a bearing on their activities within the park.

The visitor services program will emphasize two major themes, each containing one or more sub-themes. The wilderness concept is naturally of paramount importance. This theme will explore the philosophy of wilderness and thus attempt to foster among users an appreciation and understanding of the dynamics of ecological processes. The second major theme is a cultural one. It will delve into the history of Quetico from the earliest times to the present, including the aboriginal cultures, the fur trade, the Dawson Route and the more recent logging eras.

An important practical aspect of the visitor services program will be to promote among park users an acceptance of park management policies. This objective will be achieved by informing the park user of the intent and need for particular park management policies. Here the underlying assumption is that park users who are aware of the reasoning behind a given policy will be more likely to accept its need and to comply with it. This approach is appropriate in a park such as Quetico where user control and enforcement activities are extremely difficult.

Quetico's vast size and its wilderness orientation make the challenge of program design and administration particularly great. Within the wilderness zone (the destination of the typical park visitor), users are widely dispersed and on-site facilities incompatible. Even within access zones, through which all visitors must pass and consequently where visitors are somewhat concentrated, the wilderness orientation of the park precludes the use of certain highly technical interpretive devices. In response to these limitations, the visitor services program will be focused at access zones and will stress personal communication.

Visitor services facility development will not occur within the wilderness zone. Information will be provided to interior users at access zones prior to their entering the wilderness zone, as well as through occasional contact with park rangers encountered while within the interior.

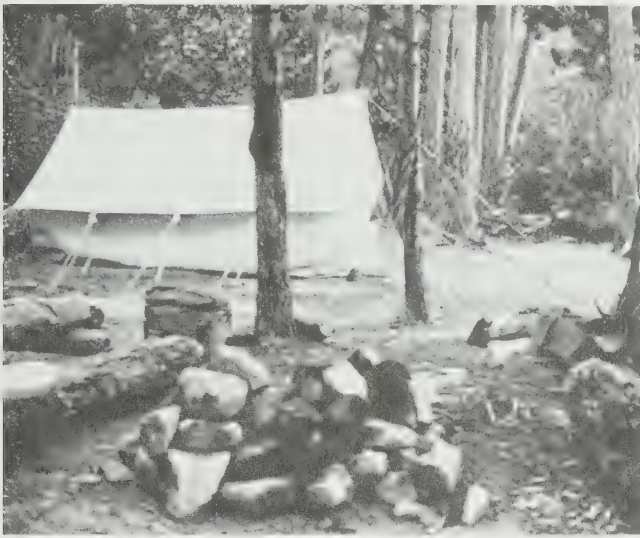
Access zones will therefore perform the major role in the dissemination of visitor services information. Information will be distributed primarily in the form of publications and through personal contact with visitor services staff.

A centralized visitor services facility will be developed at the French Lake Access Zone. This facility will provide workshop and storage facilities for visitor services staff, a research area and archives for the use of authorized park researchers, an indoor amphitheatre and various educational displays for school groups and the travelling public. Interpretive programs presented at this facility will emphasize cultural themes as well as wilderness-oriented sub-themes which may not be easily interpreted in the wilderness environment. Finally, facilities at French Lake will be developed in order to disseminate information to interior users in a manner similar to that employed at other access zones.

A visitor services program plan will set out a detailed management approach within the guidelines provided here.

Recreational Facility Development

The objective of recreational facility development is to prevent deterioration of Quetico's physical environment as a result of user concentrations and, in so doing, to ensure the provision of a quality user experience.



In keeping with the wilderness concept, the development of recreational facilities will be strictly limited within Quetico's interior. Facilities will be sufficient only to permit compatible wilderness activities and to minimize the environmental impact of associated user concentrations. Consequently, the provision of recreational facilities in the interior will be restricted primarily to campsites, portages and trails. It is largely in response to this substantial limitation of facility development, dictated by the wilderness orientation of Quetico, that the master plan emphasizes the control of the number and activities of users as the principle tool to maintain both the integrity of the resource base and the quality of the user's experience.

In addition, this section also outlines the facility requirements of access zones. As emphasized previously, the purpose of access zones is to facilitate visitor entry to the park, not to provide a recreational experience as such. Consequently, facilities within access zones will reflect this basic orientation.

Canoe Routes

Development of canoe routes will be undertaken only to the extent that facilities associated with primitive canoe travel, namely campsites and portages, will be provided.

Campsites

The ongoing inventory and evaluation of existing and potential campsites will be continued to derive a figure for the total campsite potential of Quetico. This estimate of total campsite capacity will not be based solely on physical criteria but also the tolerance of users to contact with other user groups. Thus, an additional component of this carrying capacity project is the development of a campsite spacing standard. This standard will be a flexible one and will be based on the assumption that sight and sound contacts between adjacent campsites are undesirable. It should be noted, however, that the standard may necessarily have to be relaxed where canoe-camper concentrations occur along travel corridors or adjacent to access zones. Furthermore, criteria for campsite location will avoid development adjacent to portages, fragile features or features of special interest which are specifically identified in visitor services literature. In order to satisfy this requirement, some existing campsites may have to be closed.

Ultimately, all campsites will be designated. Initially, their designation will be accomplished in visitor services literature (e.g., identified on the park map), and at individual sites in areas of relatively high user concentration (e.g., in areas adjacent to access zones or along travel corridors). On-site designation will be accomplished primarily through the provision of primitive stone fireplaces. In addition, primitive latrines will be provided at campsites as required to prevent the aesthetic and sanitary deterioration of the campsite area. Docking facilities will not be provided. With regard to campsite maintenance, surface treatment and the discreet transplanting of local native tree species for site stabilization or rehabilitation may be permitted.

Portages

Portages will consist of primitive pathways developed to provide stable and safe passage between segments of canoeable waterways. As a general principle, neither docks nor signs will be permitted at portage termini; however, in exceptional situations involving extreme hazard, signs may be employed. Otherwise, appropriate information on the location of, and safe approach to, portages will be provided in the park's visitor services literature.

The condition of portages will be continually monitored as a prerequisite to an ongoing maintenance program. Acceptable portage maintenance will include administrative cutting, the construction of log causeways and selective surface treatment. Mechanical portage facilities will not be developed, nor will mechanical devices introduced by users (e.g., portage wheels) be permitted.

Trails

Back-country hiking opportunities will be developed in response to user demands and within the constraints imposed by the resource base. A major objective of the trail system will be to provide opportunities for wildlife viewing. Initial trail development will be undertaken in areas of relatively high wildlife concentrations. Should viewing opportunities decline, in response to habitat change for example, trail segments may be closed and others developed which offer greater viewing opportunities. Other important locational criteria will include the minimization of contact and consequently the possibility of conflict with canoeists, the provision of access to park features of visual or interpretive value and the avoidance of special areas where fragility is an overriding consideration. Initially, Quetico's back-country hiking opportunities will be provided by the system of abandoned logging roads in the northeastern sector. Here, outstanding wildlife viewing opportunities are presently available.



Trails will consist of a primitive, single file path designed to provide the user with an interesting and varied hiking experience. The condition of the trails and their degree of use will be continually monitored in order that timely decisions can be made with regard to facility maintenance and user controls. Appropriate trail development and maintenance will include such procedures as administrative cutting and the construction of log causeways. Primitive bridge construction may be permitted, but only in exceptional circumstances. Management of trail-related campsites will be guided by the same principles as those governing the management of waterway-related campsites.

Facilities at Access Zones

Facilities provided at access zones, although similar, will vary mainly in response to mode of access. Where access is gained primarily by water, appropriate facilities will include the following: an entry station, a visitor services facility, a canoe-launching facility, public sanitary facilities, staff quarters and a warehouse. Where access is by road, additional facilities may include a parking lot and campsites. Outfitting services will not be provided at any access zone.

The number of parking spaces and campsites, where provided, will be dependent on the capacity of the site and the entry quota established for a specific access zone. The duration of stay at an access zone campsite will be limited to one night only. These campsites may be used when a party is unable to enter the park as a result of the quota system or inclement weather conditions or when the party arrives at the zone too late in the day to be reasonably expected to embark on either the interior trip or the homeward journey.

Location, design and materials used for the construction of buildings will be consistent with the wilderness orientation of the park. In addition, site design standards will be applied to road design, construction and maintenance in order to provide an aesthetic access to Quetico. Utilities such as electric power, telephone or gas may be provided at access zones depending on their feasibility in a given situation and only when essential for service.

French Lake Access Zone

The French Lake Access Zone is identified as somewhat of an exception to the discussion presented in the preceding paragraphs. Traditionally, French Lake has provided opportunities for car-camping and day-use. Although incompatible with the park's goal, these opportunities will be continued until such time as alternatives are developed outside the park. Additionally, the French Lake Access Zone will be the site of the park's centralized visitor services facility.

In all other respects, development permitted within this zone will be similar to that of the park's other road access zones.

Park Management and Operation

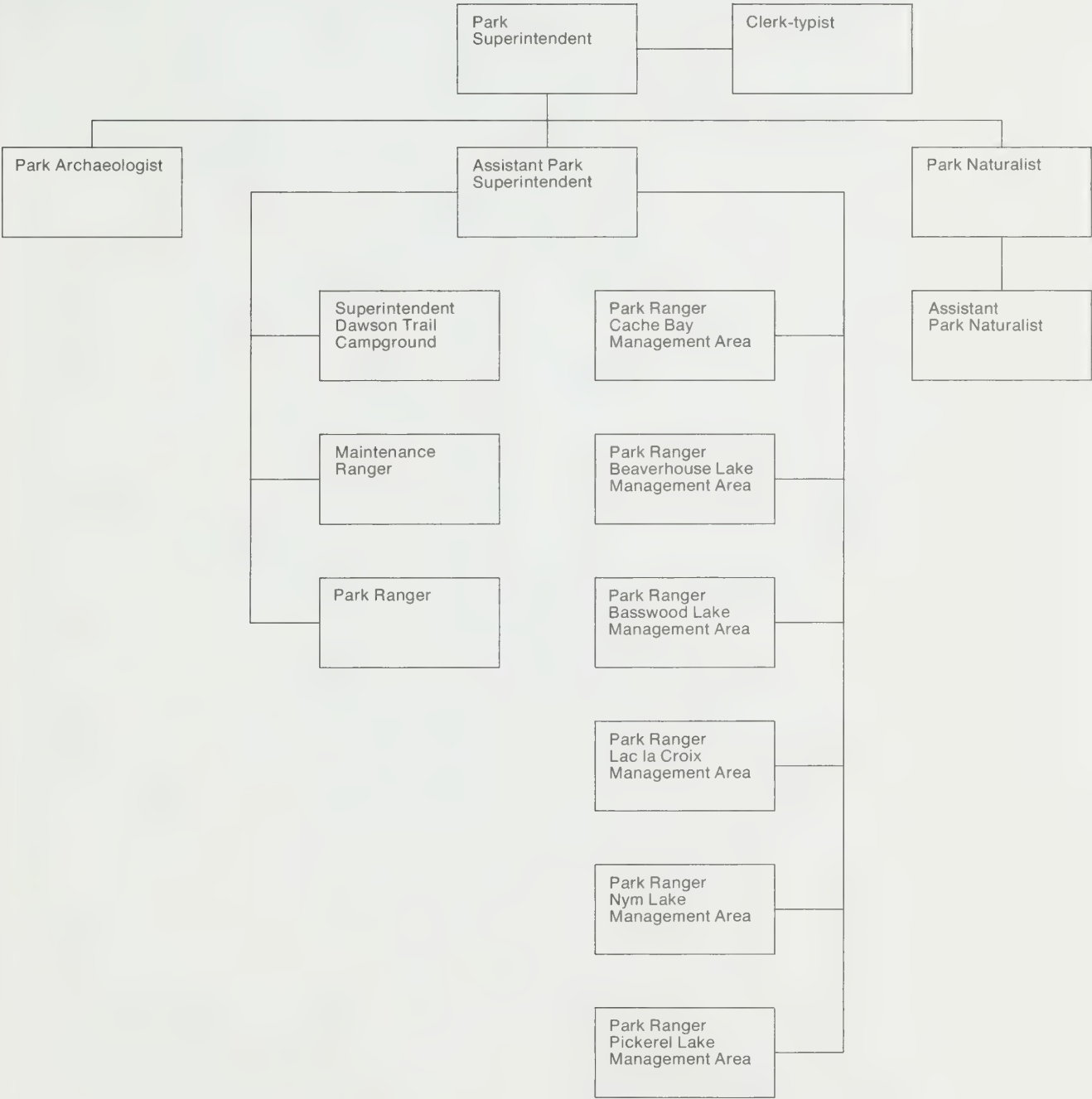
As a guiding principle, every effort will be made to ensure a high standard of park management activity by promoting a thorough understanding of the wilderness concept and, particularly, of the park goal and objectives by all levels of park staff. To this end, individuals with daily operational responsibilities in the interior will be assigned to a sector of the park and, with their staff, will live and work there throughout the operating season. In addition, all other staff with some level of responsibility for park management, will be required to spend a period of time within the park's interior each season.

The daily activities of the management staff will therefore be compatible with those of park users to the fullest extent possible. Thus, regarding travel within the park for example, park staff will generally be required to use canoes for such ongoing tasks as interior maintenance and enforcement. Where exceptions are made, it must be possible to prove that the success of the particular task is largely contingent upon the use of a given form of mechanical transport.

Administration

Quetico's permanent staff organization and reporting relationships are outlined in Figure 14. The park superintendent is responsible for the entire management and operation of the park except in areas where district-wide programs are relied upon (e.g., fire detection and suppression). Staff who will be reporting to the park superintendent include the park archaeologist, park naturalist, the park rangers and the assistant superintendent. The assistant superintendent will be responsible for the supervision of the Dawson Trail Campground superintendent, maintenance and development staff and park rangers. The organization is flexible and can be adjusted as required.

Staff Organization





The park's administrative headquarters will remain at Nym Lake. The headquarters will be expanded as required. To facilitate the management of the park's interior as well as of the peripheral access zones, Quetico will be divided into six management areas (Figure 15). Initially, these boundaries will be flexible; however, as interior management experience increases, their boundaries will be defined permanently on the basis of equal workload.

Each of the six interior management areas will be supervised by a park ranger. Within each respective area, the park ranger's responsibilities will include supervision of the operation of the entry station, law enforcement and interior maintenance. Throughout the operating season, the ranger and staff assistant will be based at an access zone within the corresponding management area.

Management Planning

Guided by the policies of this master plan, individual management plans will subsequently be developed in order to give more specific direction to the park's operational programs. These management plans will include the following major considerations: water, fish, vegetation, wildlife, fire, insects and disease, visitor services, visitor regulation, cultural-historical resources and research. The integration of these components will be of overriding concern throughout the management planning process. Consequently, individual management plans will combine components wherever suitable. Possible combinations might include: water and fish; vegetation, wildlife, fire and insects and disease; and visitor services and regulations. However, it is recognized that the schedule and organization of management planning must be flexible and capable of responding to a wide range of considerations (e.g., the complexity of the problem, the availability of data, staffing and funding). Such considerations will combine to dictate the final management planning strategy. It should be stressed, however, that regardless of the form of this final strategy, the integration of individual efforts must be achieved. All management plans will be prepared by the District, approved by the Region and reviewed by Head Office.

Operational Planning

Annual operating plans will be prepared for each aspect of park operations, such as interior ranger areas, visitor services program and the Dawson Trail Campground. These plans will facilitate the implementation of this master plan and the more detailed successive management plans through a detailed work program complete with targets and schedules.

Plan Review

The Quetico Provincial Park Master Plan will be reviewed within five years. This review will be undertaken in conjunction with a review of the progress of management planning during the intervening five-year period. Such a joint review process is crucial since the detailed work involved in management planning may well identify the need for certain specific revisions in the master plan. Conversely, revisions of the master plan may necessitate corresponding revisions of management plans.

The annual operating plans, designed to enable the orderly implementation of park policies, will be reviewed and updated every year.



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Figure 15
Quinte Provincial Park
Master Plan

Zoning and Management Areas

- Access zone
- Wilderness zone
- Other facilities
- Entry station

Management areas

- Portage length in yards
- Park boundary (planned for implementation in 1977)
- Seasonal landing
- Dam

0 2 km 4 km

North

77° 0' 75"



1 Beaverhouse Lake (Proposed)

Access road

Ranger cabin

Canada Customs

Entry station

2 Lac la Croix

Lac la Croix

Entry station

Ranger cabin

3 Cache Bay

Cache Bay

Entry station

4 French Lake

French Lake

Entry station

Ranger cabin

5 Nym Lake

Nym Lake

Access road

Entry station

6 Basswood Lake

Basswood Lake

Access road

Entry station

7 Pickerel Lake

Pickerel Lake

Access road

Entry station

8 Beaverhouse Lake (Proposed)

Access road

Ranger cabin

Canada Customs

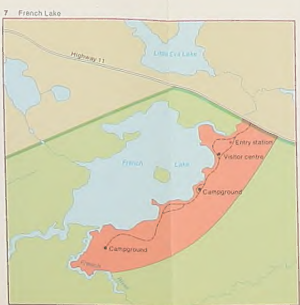
Entry station

Notes

1 The Beaverhouse Lake entry station will be closed when the Beaverhouse Lake access road is closed. A dam will be placed out to the lake.

2 The French Lake campground and day-use area will be placed out to the lake.

3 The exact location of the future Basswood Lake access road requires further investigation.





Ministry of
Natural
Resources

Hon. Frank S. Miller
Minister

Dr. J. K. Reynolds
Deputy Minister

September, 1977

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